Evaluation of the Office of Learning Technologies

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Executive Summary

I. Introduction

The Office of Learning Technologies (OLT) was officially launched in June 1996, with a budget of $6 million, as part of Human Resources Development Canada's contribution to Canada's overall framework of funding for the education and training of adult learners. The OLT was established with the objectives of promoting the effective use of learning technologies, supporting assessment, research and testing related to learning technologies, and increasing the availability and sharing of knowledge about learning technologies.

For the purposes of this report, we use a definition of learning technologies developed by the OLT. *Learning technologies are information and communication technologies used to support learning. New learning technologies include the Internet, computer networks, CD-ROM, video and computer conferencing, interactive television, computer-assisted instruction, multimedia, animation, virtual reality and simulations.*

The OLT's three key program elements are the Contribution Program, the website and on-line conferences, and the program of demonstrations, workshops and forums. While the OLT's program focus is on the needs of adult learners, its programs target practitioners, administrators, developers, policy makers and researchers with an interest in learning technologies. Adult learners are defined as the OLT's ultimate target, to be reached through their impacts on the direct targets.

The principal objectives of this formative evaluation are to provide information on program design and implementation and a preliminary report on the progress of the OLT. Information about how the program has been implemented can identify weaknesses or alternative design features to allow the program to achieve its objectives more effectively.

II. Review of Background Materials

Literature review. There are two thrusts for the literature review. The first provides a brief overview of the status of learning technologies in the Canadian and international context. The second is more narrowly focussed on the economics of learning technologies, the rationale for support, and the potential impacts on competitiveness and on worker productivity. The rationale for the OLT and its program activities relates directly to the core components of this literature.

File review. We reviewed program files relating to the operation of the Contribution Program. Project files were reviewed for the 68 projects which had received OLT funding as of April 1998. Of these projects, 27 started in 1996. The remainder started in 1997. As of August 1998, only nine of these projects had received approval of their final reports to the OLT. Selected characteristics of these projects are provided in the report.

Workshop and website evaluations. The evaluation results from workshop participants generally indicate positive reactions. A larger number of sets of evaluations would have been useful, but it appears that the OLT has learned from its early experience in presenting workshops and that its efforts are now very well-received. Although there are no assessment data comparable to those for the workshops for the OLT website, we reviewed a set of users' comments on the website. This sample of comments on the website is limited to users who chose to make use of the comments portion of the site. The comments from the users are overwhelmingly positive.

III. The Views of Key Informants

The role and profile of the OLT. Our key informants provided a range of views when questioned about key issues in the area of learning technologies. Access to learning technologies was mentioned by a large proportion of respondents. However, "access" was defined in a variety of ways, with concerns being expressed about remote and rural learners and about persons with disabilities.

Almost all respondents rated the OLT highly in terms of developing awareness of learning technology issues, of establishing a high and respected profile in this field and in terms of communicating to a wide range of individuals and organizations likely to be affected by new learning technologies.

Objectives and their achievability. OLT objectives can be interpreted as responses to information issues that are unlikely to be provided fully through markets and other institutions. In promoting the effective use of learning technologies, there is an implicit assumption of less than entirely effective current use. This view is fully supported by the key informant interviews. There was a high degree of consensus that the objectives of the OLT are realistic and achievable.

Design and delivery. The most frequently identified positive feature of the OLT was the effectiveness of the staff. Other positive mentions were recorded for the website, the Contribution Program, the OLT's publications and research, and the effectiveness of the communications strategies of the OLT. Although several respondents said that they had no negative features to report, there were a number of specific features of the program that were described negatively. A representative selection of the negatives includes the view that the OLT team is too small to support all initiatives and that the Contribution Program is too complicated for community groups.

The design of the OLT provides for a federal government presence in the area of learning technologies. Among the key informants, there was strong support for a federal government role in this area, but "more co-ordination" of federal government activities was recommended.

Success indicators. Key informants were asked a series of questions about program success. Many noted that it was too early in the life of the program to provide clear answers to questions of this kind. Many respondents also referred to attribution issues as a key problem at this point and more importantly in any future outcome evaluation. Most respondents indicated that the OLT has made reasonable progress toward its objectives. There is a general perception that the OLT is headed in the right direction and has done well for a new organization.

Program alternatives. The single most common response about program alternatives from the key informants was that more resources would allow the OLT to operate more effectively. Few respondents focused on evaluation and accountability issues in providing opinions on how OLT could alter its current activities. Among respondents that did mention this issue, there was a suggestion that OLT should be active in developing indicators relevant to a future outcome evaluation.

IV. Focus Groups

The profile of the OLT. Focus group participants generally expressed the view that OLT had, to date, been quite successful in generating awareness of its objectives and programs within the post-secondary education institutional sector. Here, OLT is seen primarily as a funding agency that supports research into learning technology. OLT has been less successful in generating awareness of its programs and services among community agencies and the private sector.

The OLT's website generally received very favourable reviews from group participants. Similar comments were made with respect to the on-line conferences and workshops. The exception to this latter point was that Francophones are not well represented in these activities.

Design, implementation and delivery. Focus group participants were generally supportive of the OLT's reliance on the contribution program, conferences and workshops and its website to address the organization's objectives. They also recognized that the OLT is a young organization which has operated with limited staff and budget. The Contribution Program is seen as both well-designed and well-known. It was recognized that the program's early emphasis on colleges and universities as recipients of funding was to be expected; educational institutions are well-equipped both to write proposals and conduct research projects.

Success in achievement of objectives. The OLT is seen as a small group that has accomplished much in a short time and with limited resources. The OLT is also commended for the balance it has struck between learning and technology. The OLT is seen as the only agency that emphasizes learning and human needs, and pursues an empirical approach to researching these issues. Participants recognized that it is too early to assess the OLT's contribution to increased awareness and use of learning technologies.

Alternatives and suggestions for improvement. Participants urged the OLT to increase its efforts to build partnerships with other agencies and to support partnerships among its current contacts in the area of learning technologies. There is general agreement that the OLT should not be creating infrastructure but should, instead, promote its use.

V. Case Study Results

The profile of the OLT. Given that some of the 15 project sponsors contacted were involved in early projects, it should be recognized that their experience with formal OLT communications was based on the OLT's early efforts. Even so, project sponsors contacted for these case studies were almost uniformly of the view that the OLT's materials and other communications were both clear and complete.

Design, implementation and delivery. Project sponsors were asked how well the objectives of their project fit within the OLT's broader objectives. Almost all (14 of 15) of the project sponsors indicated that their project was consistent with the OLT's first objective of promoting the effective use of learning technologies. Similarly, most (13 of 15) indicated that their project was consistent with the objective of supporting assessment research and testing, while 10 of 15 indicated consistency with the third objective of increasing the availability of and sharing of knowledge about learning technologies.

Success in achievement of objectives. Case study respondents commend the OLT for the progress made to date to meet its objectives. They are also supportive of the Contribution Program as an important means of meeting these objectives. A recurring theme in these comments was the view that the ultimate value of the contribution program hinges on the OLT's success in identifying and disseminating the results of its most successful projects so that the knowledge gained can be built upon in subsequent work both within OLT and more broadly.

While all of the project sponsors contacted for this evaluation recognized generally increased awareness and use of learning technologies, they were reluctant to attribute this to the OLT. Those prepared to venture an opinion on this question would allow that the OLT's impact, if any, is small. Respondents suggested that the OLT's contribution was to demonstrate the benefits of learning technologies to groups who otherwise might have been left behind.

Alternatives and suggestions for improvements. Project sponsors suggested that the OLT provide more feedback to project sponsors on their reports, and broaden its focus to encompass groups outside academia.

VI. Conclusions and Recommendations

Rationale. The literature review provides background information on many of the core issues associated with learning technologies and the role of the OLT. In particular, recent Organization for Economic Co-operation and Development (OECD) studies indicate an important role for government in the introduction and evaluation of learning technologies. The OLT fits well within the "mainstream" of the policies of other OECD countries.

Profile. In dealing with the evaluation question about visibility and communications, it is important to note that the OLT was established relatively recently and that its potential range of influence is very large. The individuals and organizations most likely to be communicated with readily and effectively were those already working in the field. The OLT itself feels that its communications efforts could be improved substantially and has committed new resources to this end.

Looking forward, both the case study respondents and the focus group participants regarded dissemination of the results of the research funded through the contributions program as a key element in the OLT's communications program. While the general view is that the Contribution Program is funding some excellent work, the outcomes and subsequent impacts of that work are not well-known.

Gaps clearly exist in the coverage of the OLT. Given the size and resource base of the OLT, this was described as inevitable. The most frequently identified gaps in service affected smaller and "less plugged in" community organizations and small and medium-sized firms. For example, some respondents noted that larger firms, active in the use of learning technologies for worker training within a corporate training and development function, would likely know of the work of the OLT. However, beyond this range of firms, there would likely be little recognition of the OLT.

Design, implementation and delivery. The majority of our respondents rate the OLT very highly with regard to program design and delivery. The key issues in the area of learning technology identified by the respondents fit well with the objectives and activities of the OLT. The goals and objectives of the OLT were viewed as reasonable and achievable.

Data gathered for the case studies also indicated that project sponsors would support more direction and feedback from OLT, particularly in regard to their reporting of project results. As well, the OLT's expectations for final reports were not always clear to project sponsors. Given the potentially critical role to be played by these reports in the OLT's future communications, more clearly defined requirements for final reports would be useful.

Among our respondents, there was strong support for a federal government role in the area of learning technologies. Most respondents approved of the OLT's pursuing a closer relationship with Industry Canada's Community Access Program (CAP) in order to marry the OLT's expertise in adult learning through technology with the infrastructure being created by Industry Canada.

Success to date. In commenting on program success, most respondents were very positive. The list of objectives or success indicators is an ambitious one, and many respondents referred to attribution issues as a key problem at this point and more importantly in a subsequent outcomes evaluation. Many organizations are active in the area of learning technologies so that attributing subsequent changes to the activities of the OLT alone is difficult.

With regard to the success of the Contribution Program, respondents were very positive about the program concept but expressed a number of ideas for altering the way it operates. These included doing more to link proponents with related projects, adapting the process to make application easier for client groups, targeting the program more effectively and targeting funding to applied work as opposed to pure research by academics.

Alternatives and suggested improvements. Respondents had a variety of opinions on potential measures to improve the effectiveness of the OLT. In addition to more resources, many mentioned finding better ways to disseminate information, more co-ordination with Industry Canada, more influence within HRDC, more work with small and medium-sized firms, a lower research hurdle for community group applications to the Contribution Program, more private sector orientation, more work in the area of needs assessment, an improved communication strategy and more continuing focus on evaluation and accountability.

Management Response

The Learning and Literacy Directorate (LLD) has reviewed the formative evaluation of the Office of Learning Technologies (OLT) that was completed in October 1998, and supports the evaluation's conclusions and the findings resulting from the report.

LLD is pleased that on the two key issues examined: (1) program design and implementation and (2) progress toward meeting program objectives, respondents rated the OLT "very highly" on design and delivery and comments were "very positive" on program success. Of particular note, is that the OLT is commended for the balance that it has struck between learning and technology. Overall, results indicate that, in keeping with the HRDC vision, the OLT is playing an important role in the area of lifelong learning, particularly in learning using technologies.

Although the evaluation clearly indicates that the OLT's objectives, its program design and its delivery systems are appropriate, it was identified that additional efforts could be made in certain areas such as communications and building partnerships, that would help strengthen the program.

Findings

That the OLT operate as a facilitator, catalyst, and coordinator of information in the area of learning using technologies and continue to work with provinces and territories and national stakeholders in this area. This recommendation is consistent with the present and proposed future role of the OLT. The OLT will continue to work with partners to coordinate, develop and disseminate quality knowledge and information through its Web site; promote demonstrations and workshops to increase awareness of technologies for learning; and support innovative activities in the area of learning using technologies.

That the OLT would benefit from a communications strategy with the broader dissemination of project results as a key component. A strategic communications plan for the OLT was finalized in 1998. This plan recognizes the need to focus on the dissemination and promotion of project results. As well, a senior promotions officer was hired by the OLT in the Fall of 1998 to oversee on-going promotional efforts; an OLT public awareness initiative is being developed; and partnerships are being established with stakeholders such as the TeleLearning Network of Centres of Excellence, to analyze and coordinate the dissemination of project results. The OLT will maintain its increased focus on promoting awareness and communicating results.

That the OLT collaborate more closely with Industry Canada. In 1998, Human Resources Development Canada (HRDC) and Industry Canada (IC) signed a Partnership Agreement recognizing both department's complementary efforts and outlining collaborative approaches to provide Canadians with access to the Information Highway, to develop their knowledge-based skills and to promote a lifelong learning culture. The OLT was an active participant in the development of this agreement and has taken steps to build relationships with appropriate IC programs. The OLT is collaborating with IC's Community Access Program (CAP) in the development of its new Community Learning Networks Initiative. As well, the OLT participates in several work groups of the SchoolNet Advisory Board and is a member of the Review Committee of the Network of Innovative Schools Initiative.

That the OLT focus more on the monitoring of project results. The OLT has taken steps to improve the monitoring of project results and impacts. Individual interviews have been held with each project sponsor. Sponsors were questioned about the impact of the project on their organization, participants and other stakeholders. Consideration will be given to developing future studies in this area and in the possibility of conducting follow-up surveys with sponsors.

Several other issues raised in the evaluation are also worth noting. Some respondents indicated that gaps existed in the coverage of the OLT among community organizations and small and medium-sized firms. The OLT has recently launched a new Community Learning Networks Initiative that will assist community organizations in the development of local learning networks. As well, OLT intends to develop further activities on the use of learning technologies in the workplace. For example, a major report is being prepared through the OLT on the impacts of lifelong learning in the workplace, and the possibility of a partnership with The Conference Board of Canada is being explored.

1. Introduction

1.1 The Program

The Office of Learning Technologies (OLT) was officially launched in June 1996 with a budget of $6 million. The OLT was established with the three general objectives of:

- promoting the effective use of learning technologies;
- supporting assessment, research and testing related to learning technologies; and
- increasing the availability and sharing of knowledge about learning technologies.

To achieve these objectives, the OLT has the following three main program elements:

- the Contribution Program;
- the website and on-line conferences; and
- the program of demonstrations, workshops and forums.

While the OLT's program focus is on the needs of adult learners (as distinct from learners in regular elementary and secondary schools), its programs more directly target practitioners, administrators, developers, policy makers and researchers with an interest in learning technologies. Adult learners are defined as the OLT's ultimate target, to be reached through their impacts on the direct targets.

Program activities reflect these program elements closely and consist of:

- promoting policies and strategies to meet the needs of adult learners;
- promoting research and disseminating results; and
- providing information and demonstrations on Canadian aspects of learning technologies.

The OLT was developed as part of Human Resources Development Canada's contribution to Canada's overall framework of funding for the education and training of adult learners. These initiatives are a reflection of the importance of human resource issues for overall social and economic management and specifically respond to the needs of Canadian workers and the labour market in Canada.

Learning technologies in Canada and around the world are growing rapidly in their applications. The rationale for the establishment of the OLT reflects a conviction that the world economy is becoming more knowledge-based. In this changing world economy, new learning technologies have the potential to assist Canadians in increasing their adaptability in the labour market and in competing more effectively.

1.2 The Role of This Evaluation

The principal objectives of this formative evaluation are to provide information on how the program has been designed and implemented and report on its preliminary progress. The central focus of a formative evaluation is on providing information about how a program has been implemented to identify weaknesses or alternative design features that would allow the program to achieve its objectives more effectively.

To provide detailed information on program design and implementation, this evaluation draws on data from a range of sources. The following core elements of the evaluation provide the evidence on which our conclusions about the program are based:

- a review of program files;
- a literature review focused on rationale issues;
- results of interviews with 30 key informants;
- summaries of the results of three focus groups; and
- description of results from 15 case studies.

A complete description of all elements of the research strategy pursued in this project can be found in the Detailed Workplan Report.

1.3 Structure of This Report

This report is organized around the data sources that provide the information to answer the evaluation questions. Following this introductory chapter, we present the results of the file review and the literature review. Chapter 2 also includes a description of the reactions of users to the OLT website and the results of participant evaluations of conferences organized by the OLT.

Chapter 3 presents the results of the interviews with key informants. It summarizes the results of the interviews and is organized around the main issues of the evaluation. The themes, following the evaluation questions, for the key informants and each of the other avenues of investigation are as follows:

- profile of the OLT: awareness, visibility, communications issues;
- design, implementation and delivery issues. Includes reasonableness, achievability of objectives, co-ordination, overlap, niche and federal role;
- success to date; objectives achievement; and
- alternatives, improvements.

In Chapter 4, the focus group results are presented. The report includes detailed information on the reactions of the participants in the focus groups to a series of questions related to the operation of the OLT. Chapter 5 presents the case study results. The last chapter contains the conclusions of the evaluation, drawing on and integrating material from all of the preceding chapters. The Appendices to this report contain profiles of the first 68 projects funded by the OLT and four- to five-page reports of each of the case study projects.

2. Review of Background Materials

By way of introduction to this chapter, and to the remainder of this report, it will be helpful to provide a definition of learning technologies. For the purposes of this report, this definition is as follows:

> *Learning technologies are information and communication technologies used to support learning. New learning technologies include the Internet, computer networks, CD-ROM, video and computer conferencing, interactive television, computer-assisted instruction, multimedia, animation, virtual reality and simulations.*

2.1 Review of Project Files

2.1.1 The Contents of the Files

The files contain the original proposal and varying amounts of supporting material. The application procedure has become more formalized since the first round. A detailed **Application Form** — SDE 0032 (05-96) — is now used. Later files also contain the proposal review forms and, in some cases, specific comments by the reviewers which led to modifications in the application. Communications on the acceptance of the project, instructions, minutes of meetings, media releases and other correspondence including e-mail messages are also in the files. "Problem" projects have more correspondence than ones with fewer difficulties.

All files contain the original **Contribution Agreement** which constitutes the contract. The following clauses are included:

- Interpretation (definitions)
- Budget
- Method of payment
- Reports and information
- Notices
- Public acknowledgement
- Termination
- Disposition of assets
- Evaluation
- General terms and conditions

The Contribution Agreement also includes the following schedules as part of the complete contractual arrangement:

- Schedule A: Project Proposal (including a Dissemination Plan for the results)
- Schedule B: Costs
- Schedule C: Evaluation and Monitoring Framework

Some of the files included a **Telephone Monitoring Report** which has, to date, been done for selected projects. The purpose does not seem to be to prepare a formal report, but simply to identify potential problems or "stars" — a more recent addition is a question about the possible publicity value of the project. A formal monitoring system, including a policy on the frequency of calls and site visits, is being put into place.

The Telephone Monitoring form includes the following:

- Explanation of the purpose of the call: to see how the project is going, to identify a wish to monitor projects, to announce a Ministerial "event" (a news release February/March 1998) and to see if any presentations have been made, if filming opportunities exist and if the project has any "success stories";
- Status of payments/reports;
- Status of project activities: Was the time frame realistic? Any problems identified? Who would be interested in the project?;
- Deliverables: Any problems with the dissemination plan? Who would be interested in this project? Have you planned how to structure the final report to maximize its interest for readers, i.e., practitioners and decision-makers?;
- Partnerships: Are your partners involved as expected? Any new ones? Have you leveraged any human or financial resources?; and
- Comments.

Items requiring follow-up are red flagged. A box is checked if the interviewer thinks a site visit may be advisable, and there is space to explain the reason for this recommendation (whether there appears to be trouble, or if the project might be an interesting one to observe for promotional purposes).

As mentioned above, the more recent files contain an **In-Depth Assessment of Proposals**, from at least two reviewers. This assessment includes:

Criteria and Description of Assessment		**Points**
1.	Relevance	10
2.	Contribution to knowledge base	8
3.	Budget and time frame	7
4.	Impact and audience size	6
5.	Innovativeness	6
6.	Methodology	5
7.	Partnership/cost sharing arrangements	4
8.	Credibility and track record of applicant	4

Recommendations

1. Recommended for funding as is
2. Conditional recommendation
3. Not recommended
4. Undecided

The main reasons a project would NOT be recommended are:

- results are unlikely to have a broad impact;
- proposal requires significant reworking;
- sufficient similar activities being supported by the OLT;
- results would add little to the existing knowledge base on LT;
- project does not represent an innovative use of LT;
- major portion of project is in purchase of capital expenditures;
- activities focus primarily on connectivity and communication;
- activities focus primarily on service delivery or provision of training; or
- activities focus primarily on transfer of media (e.g., paper to CD).

The files also contain financial information, including claims for progress payment, the compulsory **Monthly Cashflow Forecast**, journal vouchers for expenditures and a **Summary Sheet** of claims received and payments sent. Claims, which are filed quarterly, are accompanied by brief progress reports, which are also bound in the file. The Monthly Cashflow Forecast (from April to March) is to be submitted within 30 days of the agreement being signed. The categories included are:

- salaries and benefits;
- consultant fees;
- direct materials and supplies;
- printing and dissemination;
- evaluation; and
- other.

2.1.2 The Initial 68 Approved Projects

For the purposes of this evaluation, project files were reviewed for the 68 projects which had received the OLT funding as of April 1998. Of these projects, 27 started in 1996. The remainder started in 1997. As of August 1998, only nine of these projects had received approval of their final reports to the OLT. Appendix A to this report provides brief descriptive profiles of these projects as prepared by the OLT. Selected characteristics of these projects are discussed below.

Sponsor types. It is useful to examine the types of organizations and institutions which received project funding in this initial period of the program's operation. The sponsors of the 68 initial projects can be classified as follows:

• Post-secondary educational institutions	50 (74%)
• Not-for-profit organizations	8 (12%)
• Other educational institutions or organizations	6 (8%)
• Health care organizations	2 (3%)
• Organized labour	2 (3%)

Post-secondary educational institutions clearly dominated the first two waves of funded projects.

Sponsor locations. The breakdown by province of the locations of the sponsors of the initial 68 funded projects is as follows:

• British Columbia	14 (21%)
• Alberta	6 (9%)
• Saskatchewan	6 (9%)
• Manitoba	1 (1%)
• Ontario	20 (29%)
• Québec	13 (19%)
• New Brunswick	3 (4%)
• Nova Scotia	3 (4%)
• Prince Edward Island	1 (1%)
• Newfoundland	1 (1%)

Identified target groups. While most of the funded projects identified one or more learnware developers, administrators or users among their target groups, some projects also made explicit reference to other target groups. The breakdown of these target group references is as follows:

• Persons living in the remote North	1 project
• Minority language groups	2 projects
• Persons living in rural areas	5 projects
• Persons with disabilities	3 projects
• First Nations peoples	3 projects
• Seniors	1 project with two funded phases
• Women	1 project

2.1.3 Rejected Applications

ARC Applied Research Consultants conducted a review of files of rejected applications from the three application periods, selected more or less at random. An attempt was made to pull files from applicant organizations located across the country. In total, 38 files were reviewed: 13 from 1996, 10 from 1997, and 15 from the most recent proposal call.

The 13 files chosen for review for the 1996 proposal call could be broken down as follows:

• University-affiliated organizations or departments	3
• College or school board-affiliated organizations or departments	2
• Municipal/Chamber of Commerce	2
• Community-based organizations	1
• First Nations organizations/government	2
• Unions	1
• Other educational not-for-profit organizations	2

To be eligible for the OLT funding, a project had to meet one or more of the following objectives of the contribution program:

- to test the application and effectiveness of learning technologies in various settings;
- to support research into and assessment of adult learner needs related to the use of learning technologies;
- to test the applicability and effectiveness of learning models using technologies to meet the identified needs of adult learners.

As expected, a number of applications from the initial call for proposals (July 1996) appeared to have been rejected because the application did not meet these basic eligibility requirements. A number appeared to be programs that were already being designed and to which learning technologies were added or enhanced to increase the possibility of funding from the OLT. While most files indicated more than one deficiency in the application, the main reasons for the rejections were as follows:

• Did not meet basic eligibility requirements	4
• Low relevance to OLT objectives	2
• Limited impact	1
• For creation/purchase of software/emphasis on capital	3
• Focus on media transfer and communications	1
• Lacking detail of methodology/needs significant reworking	1
• Withdrawn by applicant	1

Notes in the file indicated that three of the 13 randomly selected applicants had called to follow up regarding the reasons for the proposal being rejected. One had also called before the end of the review period and was given information on shortcomings in the proposal.

This tended to confirm the OLT view that a relatively small number of applicants follow up on reasons for rejection. Due to limitations of staff resources, the OLT provides a generic letter of rejection which states the number of applications received during the proposal call, and the number accepted. This apparently provides enough information for most applicants. Those who phone or write for additional information are provided with a summary of the reviewers' comments.

The 10 files chosen for review for the 1997 proposal call could be broken down as follows:

• University-affiliated organizations or departments	1
• College or school board-affiliated organizations or departments	1
• Community-based organizations	2
• Provincial governments	1
• Other educational not-for-profit organizations	5

Fewer of these applications appear to have been rejected for not meeting basic eligibility requirements, which suggests that OLT objectives may have become better known or understood by applicants. Lack of innovation in the use of learning technologies, lack of addition to the knowledge base and limitations in the scope of impact were the most frequently cited reasons for rejection in this group of proposals.

The 15 proposals chosen for review from the 1998 call were as follows:

• University-affiliated organizations or departments	4
• College or school board-affiliated organizations or departments	3
• Community-based organizations	4
• First Nations organizations/government	1
• Independent research organizations	1
• Industry-based not-for-profit organizations	1
• Not-for-profit status pending organizations	1

While most files indicated more than one deficiency in the application, the main reasons for the rejections were as follows:

• Funding primarily for service delivery, training or capital	7
• Weak methodology	3
• Limited impact	3
• Curriculum development	1
• Not a not-for-profit organization at time of application	1

In order to provide more detail on the views of rejected applicants for OLT Contribution Program funding, telephone interviews were conducted with a random sample of 10 such individuals. The interviews followed a modified version of the key informant interview guide (described below). The results of these interviews did not differ significantly from those of other persons contacted for this evaluation and are reflected in the discussion of these broader findings.

2.2 Literature Review

This literature review is confined to areas where it provides direct input into the evaluation questions. The key issues that are pursued are the following:

- rationale for federal role, establishing HRDC mandate;
- appropriate definition of learning technology issues;

- consistency with other federal government priorities ;
- promoting adaptability in the labour market; and
- potential alternative approaches, experiences in other jurisdictions.

There are two thrusts for the literature review. The first provides a brief overview of the status of learning technologies in the Canadian and international context. The second is more narrowly focused on the economics of learning technologies, the rationale for support and the potential impacts on competitiveness and on worker productivity.

2.2.1 The Role of Learning Technologies

The primary focus of the OLT is on new learning technologies as defined earlier in the text. The literature indicates that there is a variety of such technologies that have evolved historically but that the pace of change has accelerated in recent years. New technologies usually bring both opportunities and challenges, and the OLT has as a major objective the promotion of the effective use of learning technologies. Government decision-makers in the area of training policy and educational policy for adult learners need current and effective input on the potential roles of new learning technologies. In its recent report entitled *Adult Learning and Technology in OECD Countries* (1996), the Organization for Economic Co-operation and Development (OECD) argues that these decision-makers must "understand and anticipate" the changes that are taking place and will take place. In this context, the OLT can be viewed as the "window" of the federal government in this area that many commentators argue will have important impacts on Canada's labour force and its overall competitiveness.

A number of perspectives emerge from the OECD reviews of learning technologies. The 1996 report cited above argues that "the most difficult and expensive issues are human and not technical," that "the most appropriate technology is not always the 'leading edge' one" and that "the technologies are unlikely to reduce social or educational inequality without intervention in the market" (p.16).

In developing the case for new learning technologies to be applied more intensively to meet the needs of adult learners, the OECD, in its report *Adult Learning in a New Technological Era* (1996), makes the case that "the use of computers, video and telecommunications for adult learning is becoming essential because of the ways such technology is used in the world outside education" (p. 141). This perspective makes the dividing line between the learning technology and what is being learned less clear than may be the case for earlier learning technologies. Again in support of the "window" rationale for the activities of the OLT, this OECD report asserts that "national decision-makers need a set of indicators about the need for change, the readiness for change, the process of change and the outcomes of change" (p. 145).

Two other recent OECD publications reflect many of the same themes. *Learning Beyond Schooling* (1995) and *Lifelong Learning For All* (1996) deal with infrastructure and distance issues as they affect the cost of and access to learning technologies. These publications also deal with the "window" issue, a theme that recurs throughout this section of our report. A key requirement of governments in the area of new learning technologies is information both to develop new policies and to manage existing ones. In *Lifelong Learning*, it is argued that "information on needs and 'what works' derives less from theory than from sustained enquiry among, and interaction with, users, employers and trade unions" (p. 217).

Roberts, Rossiter and Duncan (1996) report on evaluation results from a publication entitled *Lifelong Learning on the Information Highway* developed with financial support from the OLT. This report focuses on many of the "lessons learned" from using interactive learning technologies with adult learners in a variety of locations. These lessons, relating to both learning and technology issues, include the following:

- Team approaches are necessary with many new technologies. "Content experts" are unlikely to have all of the necessary expertise to also deal with delivery issues.
- Designs of learning technologies must be tailored to the specific needs of the learners who will use the technology.
- Evaluation of new technologies is critical in the early phases of these technologies.
- Focus on courses rather then modules has been counterproductive in that "too much content has to be agreed upon" (p. 4).
- Continuing experience with learning technologies has broken down many of the previous distinctions between "classroom" and "distance" education.
- "Much more data on user needs is needed" (p. 5).

An economic perspective on the impacts of new learning technologies is provided by Stager (1995). This overview report focuses on technology-based learning and training and was prepared for the Working Group on Learning and Training of the Information Highway Advisory Council. Stager deals with a variety of issues in this report, including changing demand and supply patterns for skilled workers, the economic benefits of lifelong education and training, and the fixed and variable cost relationships associated with new learning technologies.

In this survey paper, Stager points out that traditional and technology-based learning and training differ importantly in their cost relationships. With traditional learning technologies, fixed costs are smaller and costs vary with output through replication at a variety of sites with increasing staff resources. Fixed costs for technology-based systems are generally higher, associated with both hardware and software costs. However, if there is a large market for such technologies, variable costs and total unit costs can be much lower than for traditional technologies. These unit cost relationships and their implications for implementing new learning technologies are also discussed in Bates (1995). Stager refers to the large literature on network economics and network externalities as being relevant for these learning issues but points out that not much research has been done in this area.

From the point of view of the OLT, the key conclusions of the Stager Information Highway study are captured in the following quotation: "Throughout the research background of this report, there runs a common theme: data are not available, research has not been done, processes and linkages are not well understood." Specifically, what is being referred to here is the system of adult education and training as it is affected by the introduction of new learning technologies. The Stager view is reflected in a variety of publications from the Information Highway Advisory Council. This literature appears to provide a rationale for a "window" and catalyst type of organization like the OLT to contribute to advances in knowledge and understanding in this area and to provide this and related information to Canadian policy-makers.

This component of the literature review has touched only lightly on many of the core issues associated with learning technologies and the role of the OLT. The OECD studies that are cited contain extensive bibliographies with more supporting references. In the Canadian context, the work of the OLT appears consistent with the recommendations and directions of the Information Highway Advisory Council. As well, there appears to be a consensus in the international context of the OECD that policies on these important issues of access, co-operation, research and standards require public input. The rationale for the OLT and its activities and objectives appear consistent with this literature.

2.2.2 Economic Rationale Issues

This section of the report provides an economic perspective on the development of the Office of Learning Technologies. There are a number of possible approaches to the assessment of the economic rationale for the development of this initiative. In this report, the focus is on the rationale for public sector promotion of these efforts and on the way market forces might operate in the absence of government support.

The standard economic efficiency rationale for government programs of this kind relates to the existence of an externality that leads private markets to misallocate resources relative to the social optimum. An externality, sometimes referred to as a spillover, is a component of overall benefits or costs to society that does not correspond to the benefits or costs of decision-makers. For example, if society benefits from a new learning technology to an extent greater than the developer who incurred the costs of doing the research and bringing it to market, then the social gain exceeds the private gain, and the gap is the externality.

This section of the report investigates the efficiency rationale of the OLT primarily in terms of research and information. The information issue is relatively straightforward. Information as a commodity has important problems of appropriability that generally imply that there may be scope for government intervention to promote efficiency in its provision. The appropriability problem means that individuals or firms who generate information related to learning technologies or their effectiveness will be unable to capture all of the benefits of that information. (*Appropriable* is the term that economists use when referring to the extent to which the producer or creator of something of value is able to capture all the economic returns from its use.) The economics literature recognizes that information is a public good in that the benefits of its production are available to non-payers and payers alike, so that markets will under-invest in its production.

These externality-related issues provide the rationale for a wide range of government activities extending well beyond the OLT. This paper considers those rationale issues but attempts to go beyond them as well in terms of some of the specific activities and anticipated impacts of the OLT. The related issues pursued in this paper are:

- **The innovation or R&D analogy.** Successful learning technology innovations can produce social benefits in excess of the social costs of the resources required to generate them. In the presence of externalities, it may not be in the interest of private firms to pursue such opportunities.

- **The competitiveness rationale.** This rationale is associated with the extensive work of Porter (1991). The competitiveness rationale cannot always be related easily to the standard microeconomic efficiency issues described above. Porter's work focuses on the four primary factors affecting competitive advantage, namely demand conditions, related and supporting industries, firm strategy and rivalry and factor conditions. "Factor conditions" relate directly to the labour market and from there to learning initiatives. It is likely that most industry analysts would identify "competitiveness" as the dominant rationale for the core elements of the OLT.

- **The income distribution or equity rationale.** Governments pursue a wide range of activities for reasons that extend beyond allocative efficiency. Recent research by Harris (1993) and others suggests that with continuing globalization, there may be downward pressure on the wages of the least skilled components of the Canadian labour force. To the extent that learning technology initiatives can offset such developments or limit their extent, there may be an equity rationale in addition to the efficiency rationale for the OLT's activities.

In the case of the activities of the OLT, markets may fail to provide the best outcome, relative to the ideal, in a number of areas. This paper focuses on the economic rationale for these activities, particularly with regard to the following:

- Provision of learning technology information that is potentially of value to many firms and other organizations. The public good aspect of information means that individual organizations will have insufficient incentive to produce such information even if the benefits exceed the costs of production for the sector as a whole.

- Innovations in learning technologies. This is a standard R&D externality in which non-innovating firms attempt to free ride on the work of innovators.

The following paragraphs deal with each of these rationale issues.

Information as a commodity is likely to be under-provided relative to the theoretical optimum as Arrow (1962) and others have argued. The literature on innovations, including the work of Nordhaus (1969), also suggests potential problems of markets failing to achieve the social optimum. In the case of both information issues and innovation, the literature on market failure suggests that, in such cases, there may be a potential for public sector intervention to promote improvements in economic well-being.

Research activities are intended to produce knowledge or information. In the case of industrial R&D labs, that knowledge can produce new products or processes. However, innovations can extend beyond the production level to include the process of learning and how it is organized or operated. The economics literature now recognizes that information, or knowledge, has important properties that are likely to lead to its under-provision through private markets. This characteristic of knowledge is likely to lead to under-provision in a wide range of areas because knowledge, generated through costly investments, is not completely appropriable.

In a market economy, firms will fund activities to generate new knowledge only when the return from doing so is competitive with other investments. That is, they will invest in such activities only up to the point at which the marginal private benefits equal the marginal private costs. Some research activities might be profitable if all users who benefit could be made to pay, but they will be unattractive if these users cannot be made to cover their share of the development costs.

It is also the case that society has an interest in the widespread diffusion of new knowledge. Unlike the case of private goods, the use of knowledge by one firm does not reduce the amount available for other users. From a social perspective, the marginal cost of using knowledge that is already produced is zero. The efficient use of any commodity with a marginal cost of zero is one in which the price to the marginal user equals the marginal cost of zero. This creates an obvious dilemma for private production because development costs can never be recouped if the price is zero. That is, the optimal price from the point of view of producing this kind of public good is positive, whereas the optimum price once produced is zero.

Comparable issues of the rationale for government support are also faced in the area of R&D. The federal government and some provinces provide a variety of support programs, including both direct grants and tax credits for industrial R&D. In spite of intellectual property laws, the benefits of R&D appear to spill over to non-performers. These spillovers represent the appropriability problem and are widely recognized as the main source of the economic rationale for government intervention.

The evidence of Bassi (1994) is directly related to the rationale for the activities of the OLT that are related to labour market training. The focus of the Bassi study is on education programs within firms. This is instructive because these programs typically provide the most general forms of training, the most portable, and the ones that are most likely to be under-provided through the market. Bassi determines that within her sample of 72 firms, the following was true:

- most of the training programs of the firms were relatively new;
- there was no simple pattern that explained why different firms developed different kinds of educational initiatives;

- none of the firms had developed quantitative measures of training impacts. Associated case study work showed that managers were able to identify impacts on the ability to use new technology, product quality and worker communication ability; and

- from the point of view of the OLT, the most interesting result of Bassi's research is that firms responded that the most important public sector policy for promoting private sector training was the provision of information on the design of training programs.

The primary barrier to training that was identified by Bassi related to the high fixed costs of developing the content and methods of instruction for training programs. Bassi argues that the public goods properties of the front-end components of training programs means that they will be under-provided without public support, presumably because they are easily imitated and difficult to protect through copyright. Responding firms identified employer networks as the best vehicle to share and spread fixed costs in the development of these front-end components of training. Learning technologies in particular appear to face the barrier created by training costs.

More recent information on measuring returns to workplace training is provided by Mavrinac and Jones (1995). The area of measuring returns remains somewhat of a puzzle, since we have evidence that many firms are devoting more resources to training and development without requiring quantitative assessments.

The workplace training focus of the OLT is a reflection of the important structural changes in the world economy that continue to influence developments in the Canadian labour market. Harris (1993) and other economists have noted that globalization reflects continuing world-wide increases in the ratio of trade to GDP. Firms are investing in production facilities around the world and will source different products or components from the most cost effective locations. The result, in Canada, has been a reduction in opportunities and a reduction in relative wages for workers in the lower skill categories.

Documenting the labour market effects of globalization directly requires data that are often difficult to acquire, but some U.S. data are relevant in this regard. Murphy and Welch (1992) show large recent earnings gains for college graduates relative to high school graduates, but the more detailed analysis of Katz and Murphy (1992) may be more relevant in terms of training implications. These authors show that *within* educational levels, earnings inequality also has increased significantly since 1970.

At least one factor to explain this increased inequality of earnings within education categories consists of different firm and industry training approaches to globalization. As described by Harris (1993), the reaction of some firms to increased competitive pressures is to contract for more inputs from lower wage sources and lay off their least skilled workers. In other cases, however, the reaction has been for firms to adopt new technologies and to train their workers to use them. In other words, firms responding to global competition have reduced their demand for unskilled workers relative to skilled workers with obvious implications for relative wages. Bartel and Lichtenberg (1987) document the importance of having trained workers for the successful transfer of new technologies to firms. More recently, Bartel (1995) provides firm-level evidence linking training, wage growth and worker performance on the job. In cases like this, OLT activities that promote such technology-based training initiatives may be the source of both better and more jobs in Canada than would exist without training.

Governments are elected to provide programs desired by voters, and there is a case to be made that developing mechanisms to provide greater workplace learning opportunities for Canadians is such a priority. This could be desired on market failure grounds alone, but equity or income distribution issues may also be important. Gunderson (1974) discusses the training externality in the context of merit goods which can include an income distribution concern. In the context of changes that are occurring in low skill labour markets, training efforts, depending on how they are targeted, may have an income distribution rationale.

One important question that relates to much of this literature deals with evaluating the impacts of the OLT. This section of our report focuses on rationale issues, but it would have been most useful to contrast stated rationales and activities with the actual activities and outcomes of the OLT. Data are not yet available to do this in this formative evaluation. In related work in the United States, Mavrinac and Jones (1995) review much of the literature on financial and non-financial returns to workplace innovations. These returns are measured at the level of the firm, and the overall conclusion of the research is that workplace innovations do have important returns that can be measured. In the case of the OLT, however, there is a serious attribution problem that will be a key issue in designing the outcome evaluation. The ultimate impacts of the OLT on workplace learning, in which we are interested, will be observed at the level of firms and their workers. However, it will be difficult to disentangle firm initiatives, which are independent of the input from the OLT, from changes that can be traced back to the OLT itself.

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2.3 Workshop and Website Evaluations

As part of this evaluation, we reviewed the available information on the demonstration workshops held by the OLT and on the OLT's website. As noted elsewhere in this report, key informants were generally very positive about both the Conference Program of the OLT and the website.

2.3.1 Workshops

The OLT sponsors workshops on-site and in partnership with organizations at other sites across the country. These workshops are a vehicle for bringing practitioners, policy makers, administrators, developers and others interested in learning technologies together to share information, and to facilitate networking and opportunities for partnerships.

We reviewed the data from the evaluation forms used by the OLT at four of its eight workshops. Following are the topics for which evaluations were available:

- Workshops 1 and 3: Learning How to Learn on the Internet;
- Workshop 2: Multimedia Learning Ventures; and
- Workshop 8: Learning Technologies in the Public Sector.

The respondent evaluations shown in Exhibit 2.1 have all been converted to or based on a scale ranging from 1 to 5 in which 5 is excellent and 1 is poor.

EXHIBIT 2.1

Conference Evaluation Results

Conference	**1**	**2**	**3**	**8**
General*	3.46	3.71	4.32	4.48
Sessions*	3.42	3.66	3.81	4.26

*For Conference 8, "General" includes the overall presentation data while the "Sessions" category includes exhibits and workshop organization.

These results from the participants are generally indicative of positive reactions to the workshops. The first two have lower average scores, while the scores for Conference 8 are quite high. A larger number of sets of evaluations would have been useful but it appears that the OLT has learned from its early experience in presenting workshops and that its efforts are now very well-received.

2.3.2 The OLT Website

The website is one of the key initiatives of OLT, providing a mechanism for information sharing and discussion. In addition to providing information about OLT and its programs, it serves as an extensive source of more general information on learning technologies, offering searchable databases, bibliographies and electronic linkages to related sites across the country. It also offers a venue for participation in on-line electronic conferences related to learning technologies. Its "Learners' Corner" provides links to on-line and distance education institutions, courses and other resources for learners interested in using learning technologies. Finally, the "Practitioners' Corner" provides teachers, trainers, instructors and educators with links to resources to help them learn more about how to incorporate learning technologies into their work.

Although there are no website assessment data comparable to those for the workshops, we reviewed a set of users' comments on the website. This sample of comments on the website is limited to users who chose to make use of the comments portion of the site. Some of those who commented noted that they had found the site through recommendations from industry groups or educational institutions. The comments from the users are overwhelmingly positive.

The OLT also tracks the usage of its website. These data show recent significant increases in usage. In January 1998, average daily hits totalled 149 while in June, the number of hits, per day increased to 564. Visitors to the site from Canada constitute 64.6% of all hits, while visitors from the United States constitute 32.7% of all hits, with the remaining 2.7% from the rest of the world.

Analysis of the characteristics of visitors to the website's guest book reveals the following. In terms of organizational affiliation, 25% of respondents were university or college-based, 24% were business people, 17% were from government, 13% represented associations or community groups, 10% were visiting as individuals, and 9% were based in elementary or secondary schools. In terms of the OLT's target audiences, 31% were practitioners, 28% were administrators, 16% were developers/technicians, 15% were researchers, and 11% were learners.

3. *Key Informant Interviews*

3.1 The Role of the Key Informant Interviews

The interviews that we conducted with 30 key informants provide an important perspective on many of the questions in this formative evaluation. Key informants are often important sources of many types of evaluation information, but their perspectives are the most useful in a formative evaluation. The semi-structured nature of the key informant interview protocols allows us to focus on the particular area of expertise of each key informant. As a result, the interviews provide useful information on a wide range of evaluation questions.

The key informant interviews have been conducted with individuals from a variety of backgrounds. These include:

- representatives of sector councils and trade unions;
- academic managers and researchers from a variety of universities and colleges;
- respondents from associations and other organizations involved in learning technologies;
- respondents from private sector firms using or developing learning technologies; and
- representatives of provincial governments.

Many of the key informants were also members of the Advisory Panel of Experts established by the OLT. This perspective meant that they were frequently able to provide detailed and well-considered responses to many of the questions. Other respondents were project partners with the OLT or representatives from organizations who had received funding through the Contribution Program. As a result, the interviews cannot be taken as an indicator of the degree of recognition of the work of the OLT. Participants were selected because they knew of the activities of the OLT and would be able to discuss issues of implementation. In a summative evaluation, a different strategy for selecting key informants would be likely.

Most informants indicated that they had been involved with the OLT during most of its existence. Some respondents reported shorter periods of involvement frequently associated with applications to the Contribution Program. A series of visits by OLT staff with individuals working in the area of learning technologies in the early days of the program were mentioned as the initial contacts with the OLT.

3.2 The Role and Profile of the OLT

An assessment of the role of the OLT is provided by the responses of key informants about the key issues in the area of learning technologies. Profile issues reflect responses to questions about awareness, visibility, communications and the OLT website.

Respondents regarded the key issues question as very broad, and it elicited a range of responses. Many respondents provided a series of issues with access to learning technologies being mentioned by a large proportion of the key informants. However, access had a variety of interpretations, with concerns being expressed about remote and rural learners and about persons with disabilities. The majority view was that although learning technologies open a wide range of new opportunities for learners, the short-term impacts might be to increase the degree of disparity in access to learning opportunities.

Among the other issues that were raised, the following provide an overall sense of the views of the key informants about the core issues in the area of learning technologies:

- basic literacy to use technologies;
- immature and rapidly changing technology;
- too much technology and not enough learning focus;
- false assumption that learning technologies will be cheaper;
- lack of familiarity of learners;
- relevant and effective software;
- training for teachers and users;
- attributing results to specific learning technologies: what really works; and
- quality, cost and timeliness.

Almost all respondents rated the OLT highly in terms of developing awareness of learning technology issues, of establishing a high and respected profile in this field and in terms of communicating to a wide range of individuals and organizations likely to be affected by new learning technologies.

In answering this question about visibility and communications, many respondents pointed out that the OLT had been established relatively recently and that its potential range of influence was very large. The individuals and organizations most likely to be communicated with readily and effectively were those already working in the field. As a result, academics, organizations with related objectives and firms for whom learning technologies are of prime importance are most likely to have interacted with the OLT. The key informants, generally, are located in organizations with which the OLT has communicated effectively. For this reason, they are not the best sources of information on gaps. The OLT itself feels that its communications efforts could be improved substantially and has committed new resources to this end.

Gaps clearly exist in the coverage of the OLT. Given the size and resource base of the OLT, this was described as inevitable. The most frequently identified gaps in coverage affected smaller and "less plugged in" community organizations and small and medium-sized firms. For example, some respondents noted that larger firms, active in the use of learning technologies for worker training with a corporate training and development function, would likely know of the work of the OLT. However, beyond this range of firms, there would likely be little recognition of the OLT.

Some of the respondents who referred to the gaps above also noted that the OLT itself recognized these gaps and was dealing with them. Emerging key issues for the OLT are community learning and workplace learning. Given the large absolute numbers of small and medium-sized firms and of communities with needs in this area, the penetration rate of the OLT is likely to increase relatively slowly, but respondents noted that efforts are being directed to these areas.

Key informants were also asked how effectively the OLT website communicated with individuals and organizations interested in learning technologies. Overall, the website was rated very highly by key informants. Many reported accessing it regularly, particularly for project summaries, and participating in on-line conferences. There were suggestions that it might benefit from more links to related sites and the provision of a site map.

3.3 Objectives and Their Achievability

The key issues reviewed in the previous section of this chapter provide a context for considering the objectives of the OLT. In this evaluation, the three general objectives of the OLT are to:

- promote the effective use of learning technologies;
- support assessment, research and testing related to learning technologies; and
- increase the availability and sharing of knowledge about learning technologies.

To achieve these three objectives, OLT has three main activities: (1) the Contribution Program, (2) the website and on-line conferences and (3) its offerings of demonstrations, workshops and forums.

How closely do the objectives of the OLT match the key issues identified by key informants in Section B? The underlying theme of the key issue responses deals with the rapid process of change. This makes it difficult for both learners and "educators" to make the best use of what is available. This is essentially an issue of information. The rationale component of the literature review in Chapter II focussed on the role of information as an economic commodity and the problems that are faced when it is provided only through markets.

Against this backdrop, OLT objectives can be interpreted as responses to information issues that are unlikely to be provided fully through markets. In promoting the effective use of learning technologies, there is an implicit assumption of less than entirely effective current use. This view is fully supported by the key informant interviews. There was a high degree of consensus that the objectives of the OLT are realistic and achievable.

Some respondents specifically emphasized the importance of the learner focus in understanding the objectives of the OLT. This focus means that the OLT must be involved in a wide range of areas related to learning technologies. Some questions were raised about the breadth of the objectives relative to the size of the OLT and its resources. Another respondent noted that the objectives were designed to be achievable, noting that it would be possible to "promote," "support" and "increase" objectives without making a significant overall mark in a large field. One respondent raised the distinction between "goals" and "objectives," noting that objectives are often seen as being subject to measurement of the degree of achievement but that the OLT objectives would be difficult to assess quantitatively.

On the research component of the OLT objectives, there were some views that supported "doing, in terms of content development and support" versus "researching." Related viewpoints questioned OLT support for university-based academic research that has other funding sources (NSERC, SSHRC) available to it. This issue was raised even by some informants who fully supported the research focus. These individuals raised "level playing field" questions about the research supported through the Contribution Program. Specifically, they pointed out the experience of university researchers in preparing grant applications and in research methodology. Even with the simplified OLT application procedures, concerns were raised about the inherent advantages of some competitors.

As a follow-up to the question about the overall reasonableness of the objectives of the OLT, we also asked key informants to comment on the obstacles that the OLT might face in trying to achieve these objectives. Some respondents referred to their responses on the key issues. The rapid pace of technological change, software literacy, the hardware as opposed to the learner focus of many other players in this field and the broadness of the field were all mentioned as obstacles. Many key informants also noted that resource constraints were also a major obstacle for the OLT.

Many specific obstacles were mentioned by key informants. Some of these obstacles include the absence of a national mandate or co-ordinated focus on learning technologies. Some respondents made related points in terms of the inherent political constraints given the relationship between lifelong learning and the capacity to learn provided to young learners.

Another respondent focussed on the management challenge faced by the OLT. The issue for the OLT, according to this perspective, is to define its key competencies and responsibilities. This defines core activities to be carried out internally with other activities being contracted to specialized providers. This view suggests that even with growing resources, the OLT should not attempt to be all things to all members of the learning technology community.

3.4 Design and Delivery

Key informants were asked to provide their assessments of the most positive and the most negative features of the OLT's specific design and delivery issues. The most frequently identified positive feature of the OLT was the effectiveness of the staff. Other positive mentions were recorded for the website, the Contribution Program, the OLT's publications and research, and the effectiveness of the communications strategies of the OLT.

Although several respondents said that they had no negative features to report, there were a number of specific features of the program that were described negatively. A representative selection of the negatives includes the following:

- lack of resources;
- team too small to support all initiatives;
- contribution Program too complicated for community groups;
- mandate does not allow enough work with the private sector; and
- too much "pure" research.

The design of the OLT provides for a federal government presence in the area of learning technologies. Many respondents referred to the related role of Industry Canada in operating the Community Access Program (CAP). Some respondents saw a complementarity between CAP and the activities of the OLT. According to this view, the hardware provided by the CAP can be used in communities, as part of Community Learning Networks, to pursue the learning objectives of adult learners.

Among the key informants, there was strong support for a federal government role in the area of learning technologies. Many of the respondents also underlined the importance of the OLT's working effectively and closely with the provinces. They believe that the federal government should be involved in the clearinghouse, linking or information co-ordination role that they see the OLT playing. The OLT can reduce the extent to which people across Canada might end up working in isolation from each other. Some of these respondents referred to the desirability of a national strategy on learning, and several noted that virtually all countries, including other federal states, have a national focus in this area.

It is clear that many other departments and organizations operate in the same general areas as the OLT. Provincial education departments, for example, have varying degrees of focus on using new learning technologies. However, their focus is not on the adult learners targeted by the OLT. Industry Canada operates the SchoolNet Program and the Community Access Program, but these programs are more hardware or technology-oriented than the OLT. These examples and many others that could be provided show that wasteful duplication is possible. However, most respondents argued that the initiatives of the OLT were either complementary to related activities or filled important gaps in the coverage of other groups. Several respondents suggested that "more co-ordination" would be desirable but recognized the practical difficulties in doing so. One respondent pointed to some overlap in the funding of research in this area by academics.

Key informants were asked a series of questions related to the operation of the Contribution Program. This provided responses from a series of perspectives, since key informants had been involved with the program in a variety of ways. Several respondents had been assessors so that they had a detailed understanding of the review process, others had been successful applicants, and some had also been unsuccessful applicants. Other key informants, while familiar with other elements of the OLT, were not directly familiar with the operation of the Contribution Program.

Edited comments on the funding decisions of the OLT and the review process include the following:

- process favours larger, more organized groups and institutions;
- the OLT should meet with unsuccessful applicants to review proposals;
- the OLT has worked hard to make the process as clear as possible — hard to improve;
- should do more to link proponents with related projects;
- should keep information on proposals confidential from competing researchers and applicants;
- process fair, the OLT responded quickly, understood needs;
- may want to target specific groups;
- have always been comfortable with decisions reached;
- process should be adapted to make application easier for client groups;
- too much paper for too few dollars;
- calls for proposals help plug the OLT into what is going on in the field;
- one of the better funding programs;
- some delays; has evolved and improved;
- target more, support non-academics;
- hard to reject well-known academics;
- limit to applied as opposed to pure research by academics;
- fair but favours organized groups; and
- more information to rejected applicants would be useful.

The preceding comments are intended to provide the flavour and wide-ranging nature of the responses. There clearly is not a consistent picture — keeping applications confidential may conflict, for example, with the other suggestion of linking related researchers. The process is regarded as "fair" but inherently favouring organized groups. The same criticism could likely be made of any funding agency that wishes to maximize effectiveness by having as much information as possible about the project plan and the likely results. Delays, if mentioned, were generally not viewed as being excessive. Many respondents did share the view that more targeting away from "pure" research would be advisable, although this view was not universally held.

A key element of program design relates to the catalyst role of the OLT, particularly in terms of establishing partnerships with other organizations in the area of learning technologies. In some of the key informant interviews, questions were raised about precisely how "partnerships" should be defined. One respondent felt that partnerships consisted of formal, legal agreements to carry out some activity. Most other respondents, however, had less rigid definitions, including informal arrangements involving working together, sharing information, sharing resources, or establishing linkages.

Most respondents were familiar with the networking role of the OLT and felt that it was highly effective. Others did provide information about more formal partnership arrangements. Some noted that it was likely premature to offer opinions on how effective these partnership arrangements have been. Overall, most respondents seemed to agree that the OLT has been very active in this area and that this is an appropriate role for it to play.

3.5 Success Indicators

Key informants were asked a series of questions about program success. Many noted that it was early in the life of the program to provide clear answers to questions of this kind. In probing this area with respondents, the following issues were pursued:

- extent to which goals and objectives are being met;
- major achievements;
- contribution to increasing awareness and understanding in making learning technologies more effective;
- degree of learner satisfaction related to OLT-supported initiatives;
- impacts on projects supported under the Contribution Program;
- evidence of increased use and awareness of, or research into learning technologies attributable to the OLT;
- success in dealing with access issues; and
- improvement to the labour market adaptability of Canadians.

This is clearly a lengthy and ambitious list of objectives or success indicators. Many respondents referred to attribution issues as a key problem at this point and more importantly in any future outcome evaluation. Many organizations are active in the area of learning technologies so that attributing subsequent changes to the activities of the OLT alone is difficult. For example, in the case of improving the ability of Canadians to adapt to changing labour markets, it seems clear the new learning technologies will be important. The OLT is working in this area but so are many other public and private sector organizations. It seems unlikely that it will ever be possible to estimate an overall impact here in terms of a changed degree of adaptability that can be attributed to the OLT.

3.5.1 Meeting Goals and Objectives

Most respondents indicated that the OLT has made reasonable progress toward its objectives. There is a general perception that the OLT is headed in the right direction and has done well for a new organization. Another respondent noted that the OLT has made significant progress in terms of its three overall objectives. It was noted that a serious and consistent effort has been made in the direction of its objective. Other comments focussed on specific OLT activities with the general view that all of these were successfully promoting the objectives of the OLT.

3.5.2 Major Achievements

Many specific items were referred to as major achievements. The dominant item, however, related to the work that the OLT has done in building networks of contacts in the field of learning technologies. Some respondents referred to this in terms of the OLT acting as a catalyst in bringing different organizations and individuals together through its conferences and related networking activities. Other mentions in terms of major achievements included the emphasis on a learner as opposed to a technology focus and its recent work in the area of community learning networks.

3.5.3 Increasing Awareness and Understanding of Learning Technologies

Most respondents recognized the difficulty of answering the question dealing with the contribution OLT has made in increasing awareness and understanding in making learning technologies more effective. Many specific instances of OLT activities that increased awareness and understanding were referred to, but respondents were not sure how to extrapolate this to a higher level. More time and more information were referred to as necessary for providing a real answer to the question.

When asked about specific OLT-supported projects that might have made learning technologies more effective, most respondents had no direct knowledge of the degree of learner satisfaction with the technology. Many were familiar with the OLT projects and in most cases argued that without the OLT funding, these projects would not have been carried out at all or would have been carried out on a smaller and less effective scale.

3.5.4 Increased Use, Awareness of, or Research into Learning Technologies

Many respondents again pointed to the difficult nature of this question, particularly in terms of attributing changes to the OLT. The area of learning technologies is one in which there has been a rapid growth in activity from many sources, so that respondents were unsure about how to attribute changes to the OLT. Many specific things can be related to work funded through the Contribution Program, making it possible to trace out some direct impacts. Given the scale of the OLT, the response of one key informant was that the OLT contribution has been "small but worthy."

This question relates to the rationale for the OLT program. That rationale is related to the fact that learning technologies are being developed so rapidly and that there are important issues regarding the quality and usefulness of these technologies. The OLT can be seen by adult learners as the federal government's window on these issues. As such, it will be more difficult for the OLT to affect national use and awareness, but research and promotion of learner-focussed approaches continue to be relevant objectives.

3.5.5 Gaps In Access and the OLT Focus on Access Issues

This chapter previously identified access for a variety of groups, such as remote learners, as one of the key issues in the area of learning technologies. There are gaps in existing learning opportunities, and there were concerns that these gaps are likely to widen as new learning technologies are introduced. Most respondents recognized that many OLT initiatives are aimed at issues of access, with particular emphasis on rural areas and on the economically disadvantaged. A common view from the key informants on the OLT role here is that the issue has been correctly identified by the OLT as an important one, and work is underway. Many respondents also noted that the issue is much larger than can be dealt with effectively by the OLT alone.

Some respondents referred to the recent OLT initiatives in the area of community learning networks as an important response to the issue of access. One respondent noted specifically that the Community Access Program is not sufficient and that approaches that focus on learning needs as well as hardware are important.

3.5.6 Labour Market Adaptability of Canadians

Improving the labour market adaptability of Canadians is a core objective of all of HRDC's initiatives, including the OLT. Increased adaptability enhances Canadian competitiveness and minimizes the negative impacts of global change on the Canadian workforce. All key respondents recognized the crucial role of lifelong learning in promoting labour market adaptability. The efforts of the OLT focus on activities that can be described as R&D in the area of learning technologies for adult learners. Many of these activities also have the potential to increase the effectiveness of workplace learning efforts.

Key informants provided a wide variety of perspectives about the role of the OLT and about new learning technologies as they relate to the labour market. These include the following:

- because the OLT is a relatively small program, even solid contributions toward this very large objective will be difficult to discern;
- the challenge is small and medium-sized firms;
- there is important potential for training EI and SA recipients;
- community learning networks have strong labour market connections;
- distance learning will be increasingly important in this area;
- the OLT needs more influence within HRDC to promote this;
- there is a crucial need to help people work on-line;
- the OLT's research role is important in this area; and
- the OLT acts as a catalyst — it won't be able to do this alone.

The key problem with assessing the success indicators of many programs is the issue of attribution. This is a particularly challenging issue in the case of labour market adaptability. The actual amount of adaptation in the labour market reflects both demand and supply side factors. The initiatives of the OLT can affect the supply side along with many other factors, most importantly the primary and secondary school systems. The OLT can have a direct influence on training provided to members of the labour force. Several examples of this were provided during the key informant interviews from respondents who had participated in the Contribution Program. In a future summative evaluation, it will be possible to trace specific links such as these; but the OLT's research, networking and related activities do not appear to generate impacts that will be readily attributable.

3.6 Program Alternatives

The key respondents who were interviewed have a wide range of expertise in the development and use of learning technologies. As a result, they are well-placed to provide input on ways in which the OLT program could be altered to allow it to achieve its objectives more effectively. The diverse perspectives of the respondents also mean that their specific priorities will be reflected in their suggestions.

The single most common response to this question about program alternatives from the key informants was that more resources would allow the OLT to operate more effectively. Additional staff would allow the OLT to be more responsive and to maintain greater contact with its own projects and with work outside the OLT. A related comment was that with more resources, the OLT could provide increased help to applicants to the Contribution Program whose projects had potential but required further work.

Other comments about different approaches to program delivery for the OLT included the following:

- the OLT needs to be given the opportunity to evolve;
- marketing is the key;
- find better ways to disseminate information;
- more co-ordination with Industry Canada;
- make the Contribution Program review process more efficient;
- needs more influence within HRDC;
- more work with small and medium-sized firms;
- establish a lower research hurdle for community group applications to the Contribution Program;
- more private sector orientation;
- use academics only for content, not for research;
- do more work in the area of needs assessment; and
- improved communication strategy is critical.

Most respondents did not focus on evaluation and accountability issues in providing opinions on how the OLT could alter its current activities. Among respondents who did mention this issue, there was a suggestion that the OLT should be active in developing indicators that would be relevant for a subsequent outcome evaluation. It was suggested that, in the area of learning technologies, there is too much emphasis on inputs (courses delivered, software installed) as opposed to outputs. Measures of change are not easy to develop, but some respondents thought that this was an area in which the OLT should be involved. The objective is to develop studies in which the impacts of learning technologies on individuals and organizations are measured.

3.7 Implications for the Process Evaluation of the OLT

This chapter of our report summarizes a wide range of perspectives on the operation of the OLT program. Most key informants are positive about the program concept and about most of its operational features. Their perspectives on program outcomes or objectives achievement are somewhat more limited because the OLT is relatively new and because of the difficulty of attributing outcomes to the activities of the OLT. Their outcome perspectives are either a reflection of what they expect from what they know about overall program activities or an extrapolation of what they know about the experiences of specific projects or activities.

Our assessment is that the majority of the key informants rate the OLT very highly in all of the areas in which we questioned them. The key issues in the area of learning technology identified by the respondents fit well with the objectives and activities of the

OLT. The goals and objectives of the OLT were viewed as reasonable and achievable, although many respondents noted that resource constraints were a major obstacle to objectives achievement.

Respondents were positive about OLT staff and most program activities. When asked for negative aspects, they mentioned issues such as the Contribution Program's being too complicated for community groups, not enough work with the private sector and too much "pure research."

In the context of these interviews, many process issues were raised by the key informants. Related to this, many respondents focussed on the resource constraints of the program. It was clear that many of the respondents felt that this would limit the extent to which the program could fully achieve the ambitious objectives that have been established.

Among the key informants, there was strong support for a federal government role in the area of learning technologies. It is clear that many other departments and organizations operate in the same general areas as the OLT. However, the consensus view of respondents was that the initiatives of the OLT were either complementary to related activities or filled important gaps in the coverage of other groups or levels of government.

With regard to the Contribution Program, there were many differing points of view. Although very positive about the program as a group, the key informants had a number of ideas for altering the way it operates. These included doing more to link proponents with related projects, adapting the process to make application easier for client groups, targeting more effectively, and limiting funding to applied work as opposed to pure research by academics. The process was regarded as fair, but several respondents were concerned that it favoured more organized groups.

In commenting on program success, most key informants were very positive. The list of objectives or success indicators is an ambitious one, and many respondents referred to attribution issues as a key problem at this point and more importantly in a subsequent outcomes evaluation. Many organizations are active in the area of learning technologies, so that attributing subsequent changes to the activities of the OLT alone is difficult. For example, in the case of improving the ability of Canadians to adapt to changing labour markets, it seems clear the new learning technologies will be important. The OLT is working in this area but so are many other public and private sector organizations. It may never be possible to estimate an overall impact here in terms of a changed degree of labour market adaptability that can be attributed to the OLT. The same point can be made for other success indicators of the OLT.

Key informants had a variety of opinions on measures that could improve the effectiveness of the OLT. In addition to more resources, respondents mentioned finding better ways to disseminate information, more co-ordination with Industry Canada, more influence within HRDC, more work with small and medium-sized firms, a lower research hurdle for community group applications to the Contribution Program, more private sector orientation, more work in the area of needs assessment, an improved communication strategy and more continuing focus on evaluation and accountability issues.

4. Focus Groups

4.1 The Role of the Focus Groups

Three focus groups were conducted as part of this formative evaluation. One group was held in each of Montreal, Toronto and Vancouver. The Montreal group included four participants, the Toronto group eight participants and the Vancouver group three participants. It is unfortunate that the Montreal and Vancouver groups did not involve more participants, as eight to 10 participants are generally recognized as optimal for focus groups. However, despite extensive efforts to identify and recruit potential participants in these two cities, no more willing participants were identified.

Despite these limitations, group participants reflected a variety of viewpoints. While all were familiar with the OLT, their relationships to the OLT varied:

- several were members of the OLT's Advisory Network of Experts;
- many had attended one or more of the OLT's workshops or forums;
- many were involved in projects funded under the OLT's contributions program;
- a few had participated in reviewing other agencies' applications for project funding;
- a few had themselves been unsuccessful applicants for contribution project funding; and
- the majority were affiliated with educational institutions.

A moderator's guide for these focus groups was developed in consultation with the OLT and with the Project Evaluation officer. It organized the discussion around four general themes, as follows:

- the OLT's profile and related issues of awareness, visibility and communications;
- the design, implementation and the delivery of the OLT's programs;
- success to date; achievement of objectives; and
- alternatives and potential improvements.

The remainder of this chapter summarizes the main points raised in the focus groups under the headings listed above. Readers are reminded that, by their nature, focus groups do not produce data which can be considered representative of any larger pool of respondents. Instead, they are intended to identify the range of views on the subjects covered, and to allow for interplay among group participants.

4.2 The OLT's Profile

The view generally expressed was that the OLT had, to date, been quite successful in generating awareness of its objectives and programs within the post-secondary education institutional sector. Here, the OLT is seen primarily as a funding agency that supports research into learning technology. The OLT has been less successful in generating awareness of its programs and services among community agencies and the private sector.

The OLT's website generally received very favourable reviews from group participants. Similar comments were made with respect to the on-line conferences and workshops. The exception to this latter point was that Francophones are not well represented in these activities. In particular, concerns were expressed about the promotion of these activities within Québec.

Looking forward, group participants regarded dissemination of the results of the research funded through the contributions program as a key element in the OLT's communications program. While the general view is that the Contribution Program is funding some excellent work, the outcomes of that work are not well-known. Parenthetically, group participants were generally not aware that only a few of the funded projects had been completed to date.

Some more specific comments on the OLT's profile included:

- the communications strategy should not rely too much on Web versus print;
- the advisory network is a very useful way of expanding awareness of the OLT by word-of-mouth;
- you can't just build a website; you have to let people know it is there;
- the OLT is not well-known in Québec;
- some questioning of who has the time to take advantage of the on-line;
- the OLT is seen as a leader for change within HRDC; and
- there is political risk in the OLT positioning itself as being involved in the education and training arena. Some provinces may regard this as an intrusion into their jurisdiction.

4.3 Design, Implementation and Delivery

Focus group participants were generally supportive of the OLT's reliance on the Contribution Program, conferences and workshops and its website to address the organization's objectives. They also recognized that the OLT was a young organization which has operated with limited staff and budget.

The Contribution Program is seen as both well-designed and well-known. It was recognized that the program's early emphasis on colleges and universities as recipients of funding was to be expected; educational institutions are well-equipped to both write proposals and conduct research projects. At the same time, some concern was expressed that the Contribution Program was not well-known and not accessible to the not-for-profit sector, including community-based groups. If the OLT is to increase the accessibility of its Contribution Program to these types of organizations, it may be necessary to develop some means whereby the OLT staff help these organizations to build the capacity to write solid proposals.

Participants' views were more divided on the appropriate role for the OLT in regard to the private sector. Some participants perceive private sector activities as falling within the mandate of Industry Canada. At the same time, the OLT's plan to expand into workplace learning would appear to represent more active involvement with private sector organizations.

Several participants question the OLT's claim that its focus is on adult learners. To some, the Contribution Program (at least) focuses on providers of education rather than on learners. A second view was that the OLT's emphasis appears to be on learning technologies and their deliverers of service to learners. A better balance is suggested between the providers of these services and their consumers.

Participants did not seem to be generally concerned about potential overlap of the OLT's activities with those of other federal agencies. There was, however, a perceived need for better alignment among agencies participating in the learning technologies field, preferably tied to a clearer federal policy on this issue.

A number of more specific comments were made on the OLT's approach to program design, implementation and delivery as follows:

- the OLT will play an important role in the years to come with respect to re-defining the word "learning" — the learner, methods of learning and places of learning;
- the OLT is currently funding all kinds of research; a more targeted research program might be called for;
- the OLT's work does not convey a clear sense of direction. One suggestion would be to take the knowledge gained through the funded projects and structure a more logical and targeted research program, which would then identify some wider applications for learning technologies that have been shown to be effective;
- project sponsors may need marketing skills to promote the results of successful projects;
- the OLT's willingness to fund projects at a relatively high level is unusual in the current government funding context. Participants supported this strategy, saying that large projects may be more likely to produce practical and sustainable results; and
- are the "community learning" groupings communities of interest or geographic communities? Experience shows that only communities of interest or practice are consistent users of networks.

4.4 Success to Date in Achievement of Objectives

The OLT is seen as a small group that has accomplished much in a short time and with limited resources. Careful selection of the people it works with and building networks to facilitate communication among these individuals has contributed to the organization's success. It has also enabled the OLT to identify and respond to emerging issues. This response has enabled the OLT to bring together a variety of agencies and individuals with diverse interests in learning technologies.

The OLT is also commended for the balance it has struck between learning and technology. The OLT is seen as the only agency that emphasizes learning and human needs, and pursues an empirical approach to researching these issues.

Participants generally recognized that it is too early to try to assess the OLT's contribution to increased awareness and use of learning technologies. They recognized the need to be realistic about how large an impact the OLT's efforts and resources can sensibly have in such a rapidly expanding field.

More specific comments made about the OLT's success to date and achievement of objectives include:

- the demonstration workshops provide real opportunities for participants and should be continued, particularly outside of Ottawa;

- strong belief in the value of the OLT as a contribution to national leadership in education and training. This is badly needed. "You can't have one country and 13 education systems"; and

- one participant described the OLT as a remarkable little creation. "Some vision, some leadership, some initiative… it is not about money."

4.5 Alternatives and Suggestions for Improvement

Focus group participants made a wide variety of suggestions for alternative approaches and improvements in the OLT's priorities and processes.

The first was encouragement for the OLT to increase its efforts to build partnerships with other agencies and to support partnerships among its current contacts in the area of learning technologies. On this point, a role for the OLT is perceived in partnership with Industry Canada. Industry Canada is seen as responsible for infrastructure, while the OLT's emphasis is on learners and learning. There is general agreement that the OLT should not be creating infrastructure but should, instead, promote its use. Related to this is the need for what one focus group member referred to as "scaffolding." This term refers to the necessary publishing tools, instructional design templates and ubiquitous e-mail that every teacher and learner will use to bridge the gap between hardware and content. One potential role for the OLT would be the promotion of the use and development of scaffolding technologies. The OLT's proposed tool kit focuses partly on this scaffolding component.

Focus group participants also would encourage the OLT to facilitate partnerships across funded projects. The perception exists that some projects are covering the same ground as others. In these situations, there is at least the potential that those working on different projects might collaborate and thereby make better use of the OLT's funding support.

Focus group participants also suggested that the OLT needed to build its communication program around the results of completed projects. Some proposed that the most successful projects be identified; that reports on them be prepared, showing what works and what doesn't, and the broader application of these results be considered. Related to this, a need was seen for both a standardized approach to evaluating project outcomes, and a clear set of reporting guidelines that produces reports in plain language.

The groups also recommended that, in the future, the OLT's contribution program be made more accessible to sponsors outside of the educational sector. As noted above, this may entail capacity-building among community groups and perhaps those agencies interested in workplace training, so that they are able to prepare proposals that the OLT is able to support. It was suggested that regional consultants could build this capacity, and that the OLT staff could be more involved in the early stages of proposal development, where the sponsor may have no more than a general idea of what might be proposed as a project.

The importance of capacity-building outside of the educational sector to some extent reflects the view that, while the sometimes more theoretical content of the research projects done by universities (in particular) was useful and timely in the OLT's early efforts, the time has come to re-orient the Contributions Program somewhat to more practical and applied research efforts. This theme is consistent with the OLT's proposal to develop community learning and workplace training as priorities for future research.

The following are more specific suggestions provided by group participants on alternatives and improvements to the OLT:

- the OLT should try to make better and more frequent use of the advisory network. Once-a-year meetings are not enough. The members serve as important conduits of information about the OLT's work;

- the OLT should be encouraged to work collaboratively with the SchoolNet program. SchoolNet projects are community projects, not just K-12 projects;

- the model of community-based learning requires government to think outside the usual jurisdictional boundaries. The issue of provincial jurisdiction over education is not a critical barrier to the OLT's participation in making learning technologies more accessible to adult learners;

- the OLT needs to be an advocate within the federal government for the introduction of learning technologies, where appropriate, in other programs;

- the OLT could support projects to help us better understand how to shift the culture of educational institutions so that better use is made of existing knowledge;

- the OLT's emphasis so far has been on creating knowledge. It seems to be relying on traditional means to disseminate what it has learned. It should, instead, model creative learning to disseminate what it has learned in ways that are engaging, multimedia and interactive. It needs to make its site exciting, rather than just knowledge-rich;

- the OLT is urged to do everything it can — don't be afraid to be burnt. Bypass political superstructures and go directly to users and help users to get things done;

- the OLT might seek to include the private sector in its efforts through the Sector Councils;

- there is a need for research on employers' return on investments in learning technologies for workplace training. The investments required on employers' parts in these efforts are substantial;

- the OLT should stay with its education agenda. If it wants to take on a more public communications role, that role should be focussed on advocacy for learning technologies, demonstrating how they work; and

- is OLT missing any opportunities to communicate to people it needs to be in touch with? The answer is learners.

5. Review of Case Study Results

This chapter summarizes the findings of case studies of 15 projects funded under the OLT's Contributions Program. According to the Terms of Reference for this evaluation, the objectives of the case studies were to document and assess partnership development in the OLT program, project achievements and any evidence of overlap with other projects or departments. Consistent with the formative nature of this evaluation, particular emphasis was placed on project sponsors' perceptions of their initial and ongoing relationship with the OLT, progress made to date towards both project and OLT objectives, and lessons learned from the projects.

The 15 projects studied were identified in consultation with OLT staff. Their start dates ranged from March 1996 to September 1997. Only five of the 15 projects had been completed at the time of our contacts. The project sponsors were predominantly (10 of 15) affiliated with formal education institutions, while four were with not-for-profit organizations and one was with an industry association.

Information on each of the projects was gathered through two approaches. We began by reviewing the information on each of the projects contained in the OLT's files. This information was supplemented by interviews with project sponsors. Of the 15 case study interviews, eight were conducted by telephone and seven were conducted in person. The interviews followed a semi-structured interview guide which was developed in consultation with the OLT and the Project Authority.

The remainder of this chapter summarizes the findings of the case studies under the four subject headings employed in the preceding two chapters of this report. These are:

- design profile;
- design implementation and delivery issues;
- success to date and achievement of objectives; and
- alternatives and improvements.

Also appended to this report are the individual case study reports for the 15 projects. These reports can be found in Appendix B.

5.1 The OLT's Profile

Information related to the OLT's profile was acquired from project sponsors by asking them about how they first became aware of the OLT and its Contribution Program, and about their experience with the OLT's materials and other communications. Looking first at how the case study project sponsors became aware of the OLT and its Contribution Program, we found that a wide range of information sources contributed to this awareness. Specific responses included:

- The OLT website;
- The TeleLearning Network of Centres of Excellence;
- Industry Canada;
- The National Literacy Secretariat;
- A local Human Resources Career Centre (HRCC);
- The Disabled Persons' Commission of Nova Scotia;
- Colleagues at the sponsor's educational institution; and
- The Newfoundland Open Learning and Information Centre.

Given that some of the project sponsors contacted were involved in early projects, it should be recognized that their experience with formal OLT communications was based on the OLT's early efforts. Even so, project sponsors contacted for these case studies were almost uniformly of the view that the OLT's materials and other communications were both clear and complete. The document with which the project sponsors were most familiar was the OLT's call for proposals for the Contribution Program. Some respondents acknowledged that the clarity and completeness of this document had improved over time. One respondent offered three suggestions for modifications to this document. These were clear identification of the OLT's target groups, a clear definition of what a Contribution Program entails, and clarification of the OLT's requirements for written commitments from potential project partners.

5.2 Design, Implementation and Delivery

Project sponsors were asked how well the objectives of their project fit within the OLT's broader objectives of:

- promoting the effective use of learning technologies;
- supporting assessment, research and testing related to learning technologies; and
- increasing the availability and sharing of knowledge and quality information about learning technologies.

Almost all (14 of 15) of the project sponsors contacted indicated that their project was consistent with the OLT's first objective of "promoting the effective use of learning technologies." Similarly, most (13 of 15) indicated that their project was consistent with the second objective, while 10 of 15 indicated consistency with the third objective. Six of the 15 projects were said to be consistent with all three of the OLT's stated objectives.

These seemingly high levels of consistency with the OLT's objectives likely reflect two things. The first is the general or "soft" nature of the OLT's objectives themselves. Use of terms like "promoting," "supporting" and "increasing" allow for a wide range of activities to be seen as consistent with their achievement. In addition, the fact that almost all of the projects studied involved some kind of research and testing of learning technologies allows them to claim consistency with the OLT's first two objectives.

Similarly, plans to report and disseminate the results of the projects both internally and through the OLT can be viewed as addressing the OLT's third objective.

Project sponsors were asked three questions related to preparation of their proposal for project funding, the review of proposals by the OLT, and the OLT's requirements for ongoing progress reporting. Of the project sponsors contacted, approximately one in three indicated that they required no assistance from the OLT in the preparation of their proposal. Of the remainder who required some assistance, almost all reported that this assistance was provided in a timely and effective manner. Often, this involved either a telephone contact with an OLT staff member to clarify some question about the proposal, or feedback on a draft proposal which supported its improvement. The only problem reported by any of our case study contacts was some conflicting advice from two OLT staff members regarding a specific project budget issue.

Case study project sponsors were generally very positive in their assessment of the process followed by the OLT to review proposals for contribution funding. This finding applies to both proposals reviewed under the current stringent and structured process, which involves outside reviewers, and the earlier, less formal process. The only negative comment offered on the review process was that it tended, from the applicants' perspective, to be slow. In a few cases, the slowness of the process resulted in projects being delayed. On balance, the positive views of the stringent nature of the review process more than offset any negative perceptions of its timeliness.

Project sponsors were generally of the view that the ongoing reporting requirements imposed by the OLT were both fair and reasonable. These requirements involved submission of quarterly reports along with related financial information. Project sponsors described their quarterly reports as ranging in size from a few pages to more than 20 pages. While these reports were rarely described as onerous, a few project sponsors reported that they were not entirely clear on the OLT's expectations for their reports. As well, some project sponsors had the feeling that the content of these reports was not of any great interest to the OLT.

To some extent, the quarterly reporting process seemed to be little more than an administrative requirement. It is possible that the lack of feedback from OLT staff on the substance of these quarterly reports reflects the limited resources available to the OLT to review the reports in detail and provide specific feedback on them to project sponsors. Such feedback might be particularly helpful to project sponsors who are not affiliated with formal educational institutions, as industry associations and not-for-profit agencies may be less familiar with government requirements for reporting and less well-equipped to prepare these kinds of reports.

In order to understand the extent to which the OLT's funding for these projects was incremental, project sponsors were asked whether or not their project would have proceeded without OLT funding support. The responses revealed that in no case would the project have proceeded on the same scale and in the same time frame without OLT support. Typically, the support was characterized as essential to the project. At a minimum, OLT support enabled the project to broaden its scale and shorten its timelines relative to what would have transpired without this support. Specific reference was also made by several project sponsors to the fact that the research components of their projects particularly benefited from the OLT's funding.

Project sponsors were also asked as well about the funding or other in-kind support for their projects which they were able to leverage on top of the OLT's contribution support. With few exceptions, we were told that some such support was obtained. Typically, this support came in the form of staff time or accommodation provided by project partners. For example, in the case of university-based projects, the university often provided space and administrative resources. The amounts of these contributions were reflected in the contribution agreements as the partners' support for the projects.

All but one of the project sponsors also reported that their participation in the OLT project enabled them to expand their networks of contacts and partnerships in the learning technologies field. Some projects also reported expanding contacts with special needs communities such as disabled persons and residents of the far North, for whom the learning technology was being developed. In a few cases, making these types of connections was explicitly part of the project itself. Examples of this were the development of the learnware clearinghouse and the study of policies on learning technologies among post-secondary institutions. Several respondents also cited the value of OLT-sponsored workshops and conferences as aids to expanding their networks.

Project sponsors were asked their views on the final reporting and financial accountability requirements imposed by the OLT on their projects. In considering their responses, it is important to bear in mind that the majority of the projects contacted for these case studies are as yet incomplete. Accordingly, they may not have fully thought through the final reporting requirements. In any event, our contacts told us that, in most cases, they found the final reporting requirements to be both fair and reasonable. Most respondents also indicated that they found the OLT's expectations for these documents to be clear and well understood. There were, however, several dissenting voices on this point. One respondent described the final report they submitted as having been somewhat pro forma, rather than analytical in its content. The presumption here is that it would have been more valuable to the OLT had it been more thoughtful and circumspect. Another respondent was simply not clear on the OLT's expectations. The impression left with this respondent by the OLT was that it favoured an academic style of report. In the respondent's view, this reporting style would not be the most useful one for groups like theirs. In fact, it might pose a barrier to access to the information on project results for potential partners in future efforts to apply learning technology to the workplace.

In all cases, project sponsors expect to produce both hard copy and Web versions of their reports, and believe that the OLT website will make these documents available to a wider audience. Some sponsors also expect to present their findings at conferences and to publish them in academic journals.

In more general terms, our case study respondents commend the OLT for the progress made to date. They are also supportive of the Contribution Program as an important means of meeting these objectives. At the same time, they offered a number of comments about how the Contribution Program might be refined, including:

- the need to move the program beyond the education community;
- the need to document and disseminate the findings of successful projects;
- the potential benefits of helping fewer projects to be more successful through "consulting" support for project development;
- the need to be more strategic in project selection, identifying information gaps and developing projects to fill them;
- the need to be more supportive of efforts to facilitate local level partnerships; and
- the potential benefits of linking similar projects across the country.

A recurring theme in these comments was the view that the ultimate value of the Contribution Program hinges on the OLT's success in identifying and disseminating the results of its most successful projects so that the knowledge gained can be built upon in subsequent work both within the OLT and more broadly.

The project sponsors contacted for this evaluation support a federal role in researching and developing the best use of learning technologies. According to some, if this work is left to the provinces, their approaches will diverge, resulting in duplication of effort and incompatibilities of resulting systems. Within the federal government, the OLT is seen as occupying a unique niche, focussing as it does on learning and learners. Sponsors expressed little concern about overlap or duplication with other federal agencies. If anything, a need was seen to work more collaboratively with Industry Canada, which is building infrastructure that could support the kinds of learning that the OLT is focussed on.

5.3 Success to Date and Achievement of Objectives

While all of the project sponsors contacted for this evaluation recognized generally increased awareness and use of learning technologies, they are reluctant to attribute this to the OLT. Those prepared to venture an opinion on this question would allow that the OLT's impact, if any, is small. Particular contributions of the OLT suggested by respondents included:

- the contribution program has enabled projects to demonstrate benefits of learning technologies with groups who otherwise might have been left behind; and

- the OLT has established a presence in the education community and among early adopters, but now needs to branch out.

5.4 Alternatives and Improvements

Project sponsors suggested the following changes in the OLT's priorities and processes to better achieve its objectives:

- provide more feedback to project sponsors on their reports;
- move beyond the educational community to encompass the private sector and community groups;
- facilitate partnership-building at the local level, perhaps through a consulting service;
- broaden the OLT focus to encompass groups outside academia;
- assist potential project sponsors to define their research, develop their proposals and understand what they aim to take on;
- support more contact across related projects;
- make more use of print to communicate with the OLT's intended audiences and;
- communicate project results.

6. Conclusions

6.1 Introduction

This chapter provides the overall findings, conclusions and lessons learned from the formative evaluation of the OLT. The conclusions presented here are based on the evaluation findings of the previous chapters of this report and reflect input from a wide variety of sources. There was a very high degree of agreement in the views of key informants, focus group participants and individuals interviewed for the case studies.

6.2 Rationale for the OLT

The literature review provides background information on many of the core issues associated with learning technologies and the role of the OLT. In particular, the recent OECD studies indicate an important role for government in the introduction and evaluation of learning technologies. These OECD volumes contain extensive bibliographies with more supporting references, indicating that the OLT fits well within the "mainstream" of the policies of other OECD countries.

In the Canadian context, the work of the OLT appears consistent with the recommendations and directions of the Information Highway Advisory Council, which represented leading Canadian players in this area. As well, there appears to be a consensus in the international context of the OECD that policies on these important issues of access, co-operation, research and standards require public input. The rationale for the OLT and its activities and objectives appear consistent with this literature.

The literature review also considered the economic efficiency rationale for public support of the OLT. This review uses more explicit and stringent criteria than the broader-based overview of practices in other jurisdictions. The standard economic efficiency rationale for government programs like the OLT relates to the existence of an externality that leads private markets to misallocate resources relative to the best outcome when viewed from the broader perspective of society. An externality, sometimes referred to as a spillover, is a component of overall benefits or costs to society that does not correspond to the benefits or costs of decision-makers. For example, if society benefits from a new learning technology to an extent greater than the developer who incurred the costs of doing the research and bringing it to market, then the social gain exceeds the private gain. This gap between the private and social gain is the externality and implies that markets will under-invest in this area.

In the case of the OLT, the efficiency rationale is discussed primarily in terms of research and information. The information issue is relatively straightforward. Information as a commodity has important problems of appropriability that generally imply that there may be scope for government intervention to promote efficiency in its provision. The appropriability problem means that individuals or firms who generate information related to learning technologies or their effectiveness will be unable to capture all of the benefits of that information. (*Appropriable* is the term that economists use when referring to the extent to which the producer or creator of something of value is able to capture all the economic returns from its use.) The economics literature recognizes that information is a public good in that the benefits of its production are available to non-payers and payers alike, so that markets will under-invest in its production.

These externality-related issues provide the rationale for the activities of the OLT. The specific elements of the rationale for the OLT that are described in the literature review are:

- **The innovation or R&D analogy.** Successful learning technology innovations can produce social benefits in excess of the social costs of the resources required to generate them. In the presence of externalities, it may not be in the interest of private firms to pursue such opportunities.

- **The competitiveness rationale.** This rationale is associated with the extensive work of Michael Porter. Porter's work focuses on the four primary factors affecting competitive advantage, namely demand conditions, related and supporting industries, firm strategy and rivalry and factor conditions. "Factor conditions" relate directly to the labour market and from there to learning initiatives. It is likely that most industry analysts would identify "competitiveness" as the dominant rationale for the core elements of the OLT.

- **The income distribution or equity rationale.** Governments pursue a wide range of activities for reasons that extend beyond allocative efficiency. Recent research suggests that with continuing globalization, there may be downward pressure on the wages of the least skilled components of the Canadian labour force. To the extent that learning technology initiatives can offset such developments or limit their extent, there may be an equity rationale in addition to the efficiency rationale for the OLT's activities.

One important question that relates to much of the literature on rationale deals with evaluating the impacts of the OLT. In assessing rationale issues, it would have been most useful to contrast stated rationales and activities with the actual activities and outcomes of the OLT. Data are not yet available to do this in this formative evaluation. In related work in the United States, returns to workplace innovations are measured at the level of the firm, and the overall conclusion of the research is that workplace innovations do have important returns that can be measured. In the case of the OLT, however, there is a serious attribution problem that will be a key issue in designing the outcome evaluation. The ultimate impacts of the OLT on workplace learning in which we are interested, in will be observed at the level of firms and their workers. However, it will be difficult to disentangle firm initiatives, which are independent of the input from the OLT, from changes that can be traced back to the OLT itself. This issue, in which workplace learning is used as an example, will be a challenge for most of the other areas in which the OLT operates. In this regard, it is important to note that the OLT acts as a catalyst in promoting more effective uses of new learning technologies. In doing this, it generally does not interact directly with its ultimate target group of adult learners. This means that a subsequent outcome evaluation must develop a method to establish a link between the

OLT's efforts with practitioners, policy-makers, administrators and developers working in the area of learning technologies and eventual impacts on adult learners.

6.3 Profile of OLT: Awareness, Communications Issues

In dealing with the evaluation question about visibility and communications, it is important to note that the OLT was established relatively recently and that its potential range of influence is very large. The individuals and organizations most likely to be communicated with readily and effectively were those already working in the field. As a result, academics, organizations with related objectives and firms for whom learning technologies are of prime importance are most likely to have interacted with the OLT. The key informants, focus group participants and case study respondents, generally, are located in organizations with which the OLT has communicated effectively. For this reason, they are not the best sources of information on gaps. The OLT itself feels that its communications efforts could be improved substantially and has committed new resources to this end.

Looking forward, both the case study respondents and the group participants regarded dissemination of the results of the research funded through the Contribution Program as a key element in OLT's communications program. While the general view is that the Contribution Program is funding some excellent work, the outcomes and subsequent impacts of that work are not well-known.

Gaps clearly exist in the coverage of the OLT. Given the size and resource base of the OLT, this was described as inevitable. The most frequently identified gaps in service affected smaller and "less plugged in" community organizations and small and medium-sized firms. For example, some respondents noted that larger firms, active in the use of learning technologies for worker training with a corporate training and development function, would likely know of the work of the OLT. However, beyond this range of firms, there would likely be little recognition of the OLT.

Some of the respondents who referred to the gaps above also noted that the OLT itself recognized these gaps and was dealing with them. Emerging key issues for the OLT are community learning and workplace learning. Given the large absolute numbers of small and medium-sized firms and of communities with needs in this area, the penetration rate of the OLT is likely to increase relatively slowly, but respondents noted that efforts are being directed to these areas.

Our respondents were also asked how effectively the OLT website communicated with individuals and organizations interested in learning technologies. Overall, the website was rated very highly. Many key informants reported accessing it regularly, particularly for project summaries, and participating in on-line conferences. There were suggestions that the website might benefit from more links to related sites and the provision of a site map.

6.4 Design, Implementation and Delivery Issues

Our assessment is that the majority of our respondents rate the OLT very highly in all of the areas in which we questioned them with regard to program design and delivery. The key issues in the area of learning technology identified by the respondents fit well with the objectives and activities of the OLT. The goals and objectives of the OLT were viewed as reasonable and achievable, although many respondents noted that the objectives were ambitious and that resource constraints could act as an obstacle to their achievement.

Respondents were positive about OLT staff and most program activities. When asked for negative aspects, issues such as the Contribution Program's being too complicated for community groups, not enough work with the private sector and too much "pure research" were mentioned.

Data gathered for the case studies also indicated that project sponsors would support more direction and feedback from the OLT, particularly as this related to reporting of project results. There was a general sense that OLT staff were not as concerned with the content of the interim reports as they might have been. As well, the OLT's expectations for final reports were not always clear to project sponsors. Given the potentially critical role to be played by these reports in the OLT's future communications, more clearly defined requirements for final reports would be useful.

Among our respondents, there was strong support for a federal government role in the area of learning technologies. It is clear that many other departments and organizations operate in the same general areas as the OLT. However, the consensus view of respondents was that the initiatives of the OLT either complemented related activities or filled important gaps in the coverage of other groups or levels of government. Most respondents approved of the OLT pursuing a closer relationship with Industry Canada's CAP program in order to marry the OLT's expertise in adult learning through technology with the infrastructure being created by Industry Canada.

6.5 Success to Date, Objectives Achievement

In commenting on program success, most respondents were very positive. The list of objectives or success indicators is an ambitious one, and many respondents referred to attribution issues as a key problem at this point and more importantly in a subsequent outcomes evaluation. Many organizations are active in the area of learning technologies so that attributing subsequent changes to the activities of the OLT alone is difficult. For example, in the case of improving the ability of Canadians to adapt to changing labour markets, it seems clear that new learning technologies will be important. The OLT is working in this area but so are many other public and private sector organizations. It may never be possible to estimate an overall impact here in terms of a changed degree of labour market adaptability that can be attributed to the OLT. The same point can be made for other success indicators of the OLT for which attribution is difficult.

With regard to the success of the Contribution Program, respondents were very positive about the program concept but expressed a number of ideas for altering the way it operates. These included doing more to link proponents with related projects, adapting the process to make application easier for client groups, targeting more effectively and targeting funding to applied work as opposed to "pure" research by academics. The process was regarded as fair, but several respondents were concerned that it favoured more organized groups. Many respondents mentioned that the OLT itself has made many positive changes as its own experience with the program has grown.

Finally, the OLT is commended for the balance it has struck between learning and technology. Several key informants described the OLT as the only agency that emphasizes learning and human needs, and pursues an empirical approach to researching these issues.

6.6 Alternatives, Improvements

Respondents had a variety of opinions on measures that could improve the effectiveness of the OLT. In addition to more resources, many mentioned finding better ways to disseminate information, more co-ordination with Industry Canada, more influence within HRDC, more work with small and medium-sized firms, a lower research hurdle for community group applications to the Contribution Program, more private sector orientation, more work in the area of needs assessment, an improved communication strategy and more continuing focus on evaluation and accountability.

Appendix A: Funded Project Descriptions

Aboriginal Learning Needs Forestry
Sponsor: Confederation College

This study is developing and testing a new interactive CD-ROM tool to deliver business development and forestry skills training in remote First Nation communities. Researchers will endeavour to solve both the logistical challenges of delivering alternative learning technologies in remote areas, and respond to the specific learning needs of First Nation communities. The goal is to provide remote First Nation community members with better access to the benefits of advanced learning technologies.

Accessible Graduate Training for Rural Francophone Managers
Sponsor: Université de Moncton

This project is developing a number of ways to use technologies to deliver a graduate management program to Francophone managers and students living in rural and remote areas where Francophones are a minority. The project will test how well learning technologies address the needs of Francophone adult learners in rural and remote areas. It will also assess the impact of such a program on small communities and on the learning organizations offering this kind of program.

Adapting Trades Upgrading Training for Distance Delivery
Sponsor: Okanagan University College

Okanagan University College (OUC) will adapt two traditional trade qualifications and journeyperson upgrading courses (automotive and recreation vehicle) for delivery through computer-based training, CD-ROM, and audio- and videoconferencing. The courses will be delivered and tested at five sites (the four Western provinces and Ontario) in selected industry workplaces, and in educational and home locations. Journeypersons can upgrade their skills, at the same time significantly reducing both off-site training time and workplace disruptions. The diversity of project partners and locations will allow researchers to access these technologies in different environments. Findings will also provide valuable insights into the implications of collaborative course delivery across provinces. Partners will provide necessary capital equipment and facilities for training, and ensure the release time of key individuals for training and program delivery. All five sites and OUC will be involved in writing the project's final report.

Applied Logic and Programmable Logic Controller Training
Sponsor: Open Learning Agency

The aim of this project is to improve the general analytical problem-solving skills of technically trained workers and to provide basic training on programmable logic controllers. The partners in this project are developing and testing two computer-based learning modules to be delivered via the Internet to train adults in analytical and problem-solving skills. Computer simulations will provide portable learning opportunities that do not require the use of expensive industrial hardware.

This project brings a new approach to learning. By adapting artificial intelligence techniques, the project will develop a sophisticated assessment program for determining prior knowledge of learners in logic and programmable logic programming and generating individualized training programs. The program is being tested at a number of institutional and industrial sites in Canada, the United States and the United Arab Emirates.

The Canadian Network for New Media Learning
Sponsor: Alberta Association of Courseware Producers

This project was built on three existing learnware sites in Alberta, British Columbia and Québec to provide a national clearinghouse of courseware — a focal point for Canadians to use in accessing information about education and training.

The clearinghouse provides co-ordinated, comprehensive, Internet-accessible, searchable databases of educational and learnware organizations, products and services. These databases allow any potential learner (individual, corporate, institutional) to find, register, purchase (if appropriate) or receive instruction online, where available.

A minimum of 300 organizations are being entered into the database, with a potential of 3,000 courses available for access.

Collaborative Learning and Working Models

Sponsor: Télé-Université — Université du Québec

In a highly competitive, knowledge-based technological society, it is important to harness the power of technology to increase our capacity to learn and work collaboratively with partners across the country and around the world.

Télé-université will develop two models of collaborative distance learning. The first will focus on technology-assisted learning, and will concentrate on learners. It seeks to determine the skills required to participate in collaborative distance learning, as well as how to best promote that mode.

The second model will study how to promote the co-operative development of training activities. Participating organizations (businesses, public institutions and non-governmental organizations) will receive a proposal for sharing technology-based learning resources.

Collaborative Online Development with Concept Mapping

Sponsor: Education Network of Ontario

Computer conferencing typically involves text-only communication between two or more parties, using a computer and a keyboard. This project adds visual images to enhance those exchanges. It also examines how educators and trainers learn and work with visuals, rather than with text alone. It uses "concept mapping" software (SMARTIDEAS) to develop computer-based learning modules on the Internet. It then examines the resulting impact visuals have on the course's content.

Outcomes from this project will include a set of recommendations to develop more visual learning and teaching tools for use on the Internet. Project results will help educators, trainers, business and industry organizations seeking to optimize their distance learning activities.

Community Service Learning at a Distance in the Community

Sponsor: Royal Roads University

Royal Roads University will conduct a two-year action research project to design, develop and pilot a learning model that uses interactive technologies to deliver a community service learning program to students across Canada. Community service learning is new to Canada and is not offered at a distance anywhere in the world; Royal Roads, a new university committed to using new approaches, will be the first to do so.

Students (individuals in mid-career) are challenged to be mentors for present or potential leaders of not-for-profit associations (e.g., YMCA-YWCA, Red Cross, Cancer Society) in their communities.

The OLT's contribution focuses on using learning technologies so both students and mentored organizations can learn in their home communities. The program also offers an "Instructional Technology Option"; it is designed to teach students how to use contemporary technologies to make them better leaders.

Comparative Analysis of Educational Communications Software

Sponsor: Centre for Curriculum, Transfer & Technology (CCTT)

Educators and administrators have to decide which computer communication software best meets their needs, yet little information is available about their comparative merits. This project is researching, testing and evaluating software that supports education and training over the Internet. The report will describe technical elements and how they enhance learning and access, and evaluate teaching tools for instructors.

The Standing Committee on Educational Technology (SCOET) — a joint initiative between representatives of the colleges and training institutes of British Columbia and British Columbia's Ministry of Education, Skills and Training — will develop an evaluation criteria template to help educators and administrators select the most appropriate products. The final report will be published on SCOET's website. It will include a review of selected products, as well as case studies to illustrate best practices. The project will also provide an electronic forum where practitioners can share information and discuss their experiences and practices.

Competency-based Management Training Online

Sponsor: University College of the Cariboo

The University College of the Cariboo, in co-operation with private-sector employees, is developing, testing, and evaluating an online Executive Management Diploma. This is a competency-based program that will be delivered in the workplace using a range of technologies, including interactive video, the Web, computer-mediated conferencing, e-mail, audio-graphics, teleconferencing and face-to-face instruction.

The OLT contribution to this project will support research on the effectiveness of learning technologies in this application, and on competency-based curriculum development and evaluation methodologies. It will also help assess the merits of collaborative and team-based learning through existing assessment protocols. Project results will help define the types of learner support that are required for on-line management training.

Computer-Assisted Learning in the Construction Industry: Testing the Effectiveness of Contextually Designed Programs

Sponsor: British Columbia Construction Industry

In collaboration with industry partners, one of which is the Painting Industry Joint Trade Board, SkillPlan will test and evaluate the effectiveness of learning technologies to prepare trainees for Apprenticeship and Journeyperson certifications. Key areas of evaluation include the identification of "appropriate" uses for learning technologies and software products available with authoring components, the feasibility of delivery methods, and the impact of this technology on successful performance in trades training. At the same time, by using learning technologies, workers will be preparing for the inevitable introduction of technology in construction workplaces and in technical training.

Court Interpreting Distance Education

Sponsor: Vancouver Community College

There is a serious shortage of professionally trained, foreign-language court interpreters in Canada. This pilot project will test the use of technology to deliver the Court Interpreting Program of Vancouver Community College at a distance to interested students. The study will test the efficiency of audio teleconferencing, compressed videoconferencing, computer conferencing and tutor-supported home study to train people to interpret foreign languages.

This pilot project is the first of its kind in the world. The OLT's funding will help test the delivery of these technologies and evaluate their impact on learners and instructors, so the course can be offered in other areas of Canada.

Design and Testing of a Learning Model in Tourism

Sponsor: Université du Québec à Trois-Rivières

Technology — particularly the Internet — is increasingly being used to promote and market products and services. A recent study of human resources training needs in the Québec tourism industry stressed the importance of new technologies for upgrading employee skills.

The Université du Québec (Trois-Rivières) and the University of Ottawa will collaborate on a project to develop and experiment with a new hybrid learning model based on videoconferencing and multimedia courses over the Internet. This project will facilitate continuing and distance education opportunities for employees and students of the tourism industry. Practitioners who want to use videoconferencing and the Internet in their training will find the results in this project.

Design Principles for Telelearning Science

Sponsor: Centre collégial de formation à distance (CCFD)

This project is developing a model for collaborative science laboratories on the Internet. The model will be implemented in a course on Science and Technology Literacy for a non-specialized audience and will provide the technological and pedagogical tools students and teachers need to learn and teach in this area.

Developing a Pedagogical Approach for Teachers

Sponsor: Université de Montréal

Recent advances in Internet technologies have created new opportunities to use videoconferencing and electronic communications (e-mail and discussion forum) for distance teaching.

This research project brings together Francophone researchers and teachers in Québec, New Brunswick and Ontario to study how to use these technologies effectively, and determine the pros and cons (technical and pedagogical) for learners and instructors. Data will be gathered from both learners and instructors through observation, focus groups, in-depth interviews and surveys. Learners are participating in professional development, while the teachers are learning how to use telelearning.

Development of a New Adult Learning Method
Sponsor: Université du Québec à Rimouski

The Université du Québec (Rimouski) is leading an experimental study on how adults learn using video communications (videoconferencing and cablecasting) on the Internet. Other partners are Québec-Telephone and five community colleges in the regions of the Lower St. Lawrence, Chaudière-Appalache, Gaspé, and the Lower North Shore.

This project will compare the learning methods of adult learners across a large area, often from rural or remote locations. Results will be shared at a "virtual workshop" in early 1999, where researchers will be linked with practitioners across the country. Two other OLT-sponsored projects (Université du Québec à Trois-Rivières and Université de Montréal) will also be involved.

Researchers will publish a series of papers, as well as a training program for teachers who want to integrate video communications and the Internet into their courses.

Development of an Evaluation Model for Technology-enhanced Learning in Retailing
Sponsor: Ryerson Polytechnic University

The main objective of this project is to develop a sophisticated "tool kit" to help education and training organizations identify the best techniques for testing and evaluating their distance education courses. The model will address course design, as well as the attitudes of course designers, instructors, administrators, corporate sponsors and most importantly, learners. The "tool kit" will include a dynamic feedback model that can be generalized to fit any distance education context. The project will be tested on training courses developed for workers in the retail industry.

Distance Prior Learning Assessment Project (DPLA)

Sponsor: Holland College

A major aspect of continuing education today is Prior Learning Assessment (PLA), where credit is given from previous education, or life or work experience. Although PLA is not unique, it is traditionally conducted at the institute granting the degree. A distance PLA service would allow distance learners to gain recognition and credit for prior learning related to their areas of study, without having to travel to their institution.

This project is researching, testing and evaluating the application of a (PLA) recognition strategy in conjunction with a distance education program. The research and assessment data from this unique pilot project will develop new PLA techniques for distance-learning organizations, employers, and learners.

The model will use a variety of techniques; these may include the Internet, interactive video and video graphics, paper, seminars, individual instruction, videotapes and more.

Effectiveness of Computer-based Training in the Plastics Industry

Sponsor: Canadian Plastics Training Centre

This project will test the use of Computer-based Training (CBT) to provide plastics industry workers with effective workplace upgrading. The Canadian Plastic Training Centre (CPTC), a sectoral alliance of labour, business and Humber College, offers courses and programs in the Toronto area to address skills shortages in the plastics industry. In collaboration with a major Canadian plastic equipment manufacturer and a software developer, the CPTC is conducting research in the Toronto area to test the effectiveness of interactive CD-ROM simulations to deliver workplace training. It will compare the results to traditional institution-based training.

Expected outcomes include greater access to training opportunities for workers and employers not located in the Toronto area; a smaller skills gap arising from new technology in the industry; reduced training travel costs; reduced training program time; increased flexibility and responsiveness of training; and more qualified operators and production employees in the plastics industry across Canada.

The Effectiveness of Learning Technologies

Sponsor: Office for Partnerships for Advanced Skills

This project investigates how effectively learning technologies facilitate different types of learning and how cost effective they are relative to other approaches. It combines research with the implementation and assessment of training delivered via learning technologies to Northern communities.

The project will be conducted in two phases: Phase 1 will involve a compilation of evidence and the development of cost effectiveness model(s). In this phase, the Office will investigate how effectively learning technologies facilitate different types of learning, with different learners and different situational variables, and will study how they are cost effective; develop cost effectiveness models which incorporate learning effectiveness; provide a platform on which to base future work; and provide a knowledge base to assist instructors working with technology-mediated methods.

An interim report, which will present the findings of the search and critical review, will be circulated for review by experts, revised and made available through the NODE/RÉDO website. Building on this report, a final report will be prepared which will incorporate the definition, variables and model(s) of cost effectiveness.

Phase 2 will demonstrate projects and assess their ability to apply accumulated knowledge to the development and delivery of training. It will also assess the learning acquired through and the cost effectiveness of the approaches used. This phase will be conducted in partnership with the Province of Ontario, Contact North, NODE/RÉDO, post-secondary institutions and employers.

The Office for Partnerships for Advanced Skills is a joint initiative of all Ontario universities and several industry sectors to improve the competencies and intellectual capacity of organizations and individuals through advanced training.

Electronic Distance Education Network: The EDEN Project

Sponsor: Simcoe County Board of Education

The EDEN project is testing and assessing a new learning mode: it uses Internet technologies to deliver high school credit courses to adults who are unable to access traditional classroom learning. The model is equally appropriate for delivery to groups of adults on a continuous intake basis in a computer lab setting. It will demonstrate and evaluate the educational, economic and administrative benefits that can be expected when applying technology to distance education. The project, which was piloted in Orillia district, is now being conducted in partnership with four other Ontario school boards, their human resources development offices and one Aboriginal community. The project will also develop a learning delivery system that can be accessed by adult learners across Canada and abroad.

ESL Courseware for Adults in Remote Locations

Sponsor: North York Board of Education

The North York Board of Education is developing an innovative language program. Canadian adults who live in remote areas, or who have barriers that prevent them from participating in traditional instruction, can use the Internet to access quality instruction in English as a second language.

This study will monitor and test the application and effectiveness of Internet technologies, written instructions, graphics, Webphone, e-mail, Internet relay chat and audio files in teaching English to adult learners. The program is designed to accommodate different learning styles. This study's goals are to gather information on learners' needs and their learning styles; determine the level of technical competency required for students to fully benefit from an Internet approach; find the best way to teach prerequisite computer/Internet skills to new learners; and determine appropriate training materials and the required skill set for distance education instructors.

Evaluating Learning Technologies for Inuit Communities

Sponsor: McGill University

This project will determine the effectiveness of combining three forms of technology as an instruction tool for Inuit teachers: computer-assisted videoconferencing, electronic mail and the World Wide Web.

Inuit teachers in Baker Lake and Rankin Inlet will be provided with a 12-week workplace training program on how to integrate learning technologies into their courses. The teachers will use the Internet and related communications technologies to find instructional resources, as well as develop their own resources on the World Wide Web.

At the end of the project, recommendations will be made on how to implement learning technologies in remote Inuit communities. These findings will also be applied in other remote settings.

Evaluation of a Career-planning Website

Sponsor: Woodland Institute, SIAST

Career planning is a vital skill that helps people attain education and career goals. The OLT is supporting the assessment of an on-line, Internet-based, career-planning website. The site was developed by New Careers Corporation of Saskatchewan; it is designed for adults who are enrolled in basic education programs (pre-Grade 12) and receive social assistance. The project will assess whether the Internet can be an effective career-planning tool for approximately 75 adults with limited education.

Evaluation of an Interactive Training Model on Composite Materials
Sponsor: Cégep de St-Jérôme

This study is testing the use of technology to deliver distance education programs at home, in the workplace or in an institution. It uses the Internet and new communication technologies as a model to deliver a program on the manufacturing of composite materials. The results will provide learning institutions with policy guidelines for the provision of other technical courses delivered at a distance.

Evaluation of Computer-assisted Learning for Adult Basic Education
Sponsor: Worker Education Centre of Hamilton

The Worker Education Centre is assessing the effectiveness of different electronic learning strategies in addressing the basic skills upgrading needs of adults in the workplace. It will document best practices in the use of interactive multimedia as a learning tool, conduct a cost-analysis comparison between technology-based and traditional classroom learning, explore ways to overcome the barriers faced by workers in accessing education and establish guidelines on integrating technology into basic skills upgrading in the workplace. Some 350 adult learners and 20 instructors in the Hamilton area will participate in this project.

Evaluation of New Training Technologies for Hospital Workers
Sponsor: Université Laval

This study is undertaking a comprehensive review of an Internet-based computer system that was developed to train hospital staff in energy efficiency. The project will evaluate the applicability and effectiveness of new learning technologies in a hospital setting, determine the usage patterns of learners, measure their acceptance of the delivery approach and ascertain the system's applicability and transferability to other settings.

An Evaluation of the Net-based Math Readiness Course Trial
Sponsor: University of Saskatchewan

In this project, researchers will evaluate the Math Readiness Course (MRC) developed by the University of Saskatchewan. The MRC is intended to bridge the gap that many adult learners experience between the mathematics skills they have acquired and retained from high school and the knowledge and skills that are expected in post-secondary education programs; it has a significant quantitative aspect. The trial involves three cohorts of learners: home-based, school-based, and workplace-based, in northern and remote communities. This project will evaluate the trial using an evaluation framework that combines outcome and process evaluation. Project findings will be useful to those who want to develop similar distance education courses.

A Framework for Policy and Socio-Economic Studies of TeleLearning Technologies

Sponsor: Simon Fraser University

This research project will examine the micro and macro policy environments of learning technologies to determine if there are existing policies which hinder or foster the use of telelearning technologies.

There are three stages to the project. First, researchers will use a survey to identify current policy with regard to learning technologies at the college and university, government and corporate levels. The policy development process, policy rationales and policy issues that affect learners will also be included.

Second, researchers will create an electronic discussion forum to identify new policy issues arising from the implementation of learning technologies. The forum will include participants in the Telelearning Network of Centres of Excellence. The feedback will help establish a framework for further policy research and action.

Finally, the project will establish priorities for further research in policy and socio-economic impact studies.

Gaining a Competitive Advantage through Voice Input Computer Technology

Sponsor: Ontario March of Dimes

This study is evaluating the impact of voice technology on the provision of job skills training to adults with physical disabilities. It will design and test user-friendly assessment tools, provide training on voice input technology and demonstrate the transferability of the tool to the workplace through an on-the-job training component.

Home-based Laboratory Technology for Introductory Physics
Sponsor: Athabasca University

The difficulty in providing science courses via distance education has, until now, been their practical laboratory component. Students must still travel to a central site to participate in laboratory exercises.

Athabasca University will test and evaluate the effectiveness of new learning technologies to offer students an experimental home laboratory for science courses delivered at a distance. A physics course will be piloted using a recently developed calculator-based laboratory system that can take physics measurements and port them to a PC for analysis. A number of known industrial PC measurement technologies will be applied.

The project will evaluate the impact of using this home laboratory technology for learning. The potential application of these technologies in fields such as mathematics, chemistry and biology will also be assessed.

Innovative Learning Model for Social Workers in Remote Communities
Sponsor: Centre for Research on Diversity Training

This project is developing and testing an innovative learning model for social workers who live in remote communities and who aren't registered in a formal education program. The learning model will emphasize the learning needs of Aboriginal peoples. Researchers will also assess the applicability and effectiveness of adult learning models that use innovative technologies in remote communities throughout Canada.

Interactive Multimedia Technology in Nursing Education
Sponsor: Saint Francis Xavier University

This research project will test the effectiveness of CD-ROM/Internet technologies in a distance education program for working registered nurses in Nova Scotia. The curriculum includes both theoretical and practical lessons, and leads to a B.Sc.N. The effectiveness of the technology for this type of learning will be compared with other delivery formats using established standards.

The project hopes to prove that the learner-driven nature of the Internet and its feedback capabilities will make it a better option than traditional delivery methods. The findings will not only serve the health-education sector, but will provide guidelines for the effective use of technology in other areas of professional education.

Interactive Multimedia Training on the Information Highway

Sponsor: Société pour l'apprentissage à vie (SAVIE Inc.)

Adult learners looking for work or who are in career/job transitions need to arrange and implement training plans that reflect today's changing labour market. This project will develop an interactive multimedia help system on the Internet. It is designed to help individuals identify their training needs, develop their own training plan, select the best learning activities and assess their progress. Researchers will also examine issues surrounding the motivation of adults who use learning technologies. The OLT will fund the development of a learning model that uses information and communications technologies to meet the training needs of adults looking for a job or changing careers.

Internet Technologies and University Adult Learners

Sponsor: Collège Universitaire de Saint-Boniface

This project is researching the effectiveness of Internet technologies for Francophone adult learners pursuing university studies at a distance. Two groups of learners (90 in each) participating in psychology courses will be observed three times over the next two years. The first group consists of adult learners accessing courses via the Internet; the second is composed of regular university students. Quantitative and qualitative measurements will be used to compare the perceptions, problems and performances of the two groups. The project aims to assess the difficulties faced by adult learners and identify the best pedagogical approaches for their needs.

Job Search Strategies and Job Market Research Tutor

Sponsor: Université de Québec

This project is developing, testing and implementing a series of computer-assisted, bilingual learning modules. The modules will provide youth and adults with the skills to: plan job searches; investigate labour market information; learn how to network for advice, job leads and referrals; and practise interviewing skills. The project will be delivered via CanWorkNet and Industry Canada's SchoolNet Career Centre. The program consists of two major interactive learning components: the Job Search Strategies and the Job Market Research Tutors. The first is a computerized tutor designed to help learners acquire the skills to plan a job search, develop résumés and covering letters and prepare for job interviews through role-playing simulations. The second will help them locate jobs, become aware of changing occupational profiles, examine growing occupations and the future prospects of various jobs.

Just-in-Time Open Learning (JITOL) Initiative
Sponsor: University of Alberta — Faculty of Extension

The JITOL Initiative supports collaborative learning in the workplace; it provides tools for multimedia workers to document and reflect on their workplace experiences, and share them with colleagues. This project will develop up to six pilots for professionals in the multimedia industry to evaluate JITOL tools to enhance professional learning. The university and participating firms and organizations are working together to design, implement and evaluate the pilots. An estimated 100 professionals in the multimedia industry are participating. JITOL is a methodology that focuses on evaluating how technology can support professional development through the exchange of knowledge. Researchers are using technology to create a forum for workers to document their workplace experiences and discuss them with other professionals.

This creates an evolving knowledge base that serves as a learning repository. Research demonstrates that significant learning occurs on the job, as workers reflect on their workplace practices.

Just-in-Time Learning and Information Network
Sponsor: Ontario Network of Employment Skills Training Projects

ONESTeP (Ontario Network of Employment Skills Training Projects) is currently designing a learning network that will use computer technologies to link organizations, clients, businesses and the public. ONESTeP is a non-profit provincial umbrella organization that provides services to non-governmental organizations involved in training and career counselling for individuals with special needs. It has 120 member organizations that offer over 450 programs to more than 100,000 clients in 51 Ontario communities. The Just-in-Time Learning and Information Network project's purpose is to identify, promote, animate and facilitate the use of information and telecommunication technology; capture best practices from across Canada; encourage the sharing of these practices; monitor and evaluate emerging technologies related to community-based training; and provide professional development opportunities for practitioners.

Learning French as a Second Language in Multimedia Environments
Sponsor: University of Ottawa

This joint Canada-France project is studying the issues surrounding the inter-cultural transferability of multimedia software for learning French. The study will examine learner characteristics such as socio-cultural background, level of language competency, personality and attitudes toward computers. It will evaluate how these affect the learner's ability to successfully use multimedia technologies to learn another language. The OLT's funding will help the Canadian research team assess whether the module « L'acte de vente » from the French multimedia software Camille can be adapted for a Canadian learner. It will also help test the effectiveness of a Canadian FSL (French as a Second Language) assessment tool that has been adapted for foreign learners.

Learning Opportunities for Paid Caregivers of the Rural Elderly
Sponsor: Southeastern Regional Geriatric Program

There is an increasing demand for staff development for healthcare providers coupled with a growing concern that the traditional face-to-face learning approach is insufficient, especially for rural healthcare providers, who often work in small urban or rural hospitals or nursing homes, and therefore cannot access as many professional development programs as their counterparts in large centres. This project will assess and compare three learning approaches, including traditional workshops, independent study modules and web-based study modules with nurses and healthcare aides in different facilities. It will explore the potential for technology-based learning to meet staff development needs and improve work performance.

Learning Technologies for Professional Development of Adult Education
Sponsor: University of Alberta

This project examines how learning technologies could be used for the professional development of post-secondary adults in Alberta and British Columbia. Results of the project will help us better understand the effectiveness of these technologies in this area; determine the impacts of an educator's learning experience on the integration of technologies into his or her practices; and identify the competencies required by adult educators in this area. What's more, this project will develop a group of committed educators with first-hand experience learning with technologies.

Learning through New Technologies: Response of Adult Learners

Sponsor: University of British Columbia

This research project is studying how adults respond to learning technologies for university, career and professional learning. It includes regular campus students, independent distance learners, individuals and groups studying in community skills centres, and learners in the workplace. Its objectives are 1) to determine common characteristics of successful distance learners to help identify key target groups and priorities; 2) to provide guidelines for improving technology-based teaching designs; and 3) to provide better support to learners by identifying strategies that facilitate, and barriers that inhibit, learners' use of technology. Study habits, learning styles, motivation and how learners interact with technology are being examined. The project will also look at 20 courses on various subjects using different delivery modes that are part of the university's regular program; organizational and administrative issues related to their design and delivery will be studied in context.

"Lifelong Learning on the Information Highway" Learning Guides

Sponsor: Knowledge Connection Corporation

"Lifelong Learning on the Information Highway" is an integrated series of eight learning guides for practitioners — four in French and four in English. It is written by well-known Canadian learning technology experts and practitioners. The series offers practical information and advice to help teachers and instructors start using technology in their classrooms. The objective? To increase the use of compressed video, computer, audio and audiographic conferencing as learning tools. Developed by Knowledge Connection Corporation and Judy Roberts and Associates/Associés, the series will be published by Chenelière/McGraw-Hill early at the end of 1997. There are eight titles: 1) Classrooms with a Difference: Facilitating Learning on the Information Highway; 2) *Classes virtuelles : Apprendre sur l'inforoute;* 3) Networked Learning: The Pedagogy of the Internet; 4) *Apprendre par la télématique : La pédagogie des réseaux;* 5) Audio and Audiographic Learning: The Cornerstone of the Information Highway; 6) *Apprendre par l'audio et l'audiographie : La pierre angulaire de l'inforoute;* 7) Compressed Video Learning: Creating Active Learners; 8) *Apprendre par la vidéo : Un échange convivial.*

A Model Network for University Learning in First Nation Communities
Sponsor: Saskatchewan Indian Federated College

The Saskatchewan Indian Federated College is establishing a learning network among First Nation communities in Saskatchewan. This pilot project will test the effectiveness of a variety of learning technologies, including computer-based mediation, teleconferencing and others to deliver community-based university courses to adult learners in Meadow Lake, Prince Albert, Lac La Ronge and Wollaston Lake. The technology will link these students with instructors and other learners at the Regina and Saskatoon campuses of the college. This model is expected to enhance the community-based university experience, improve access to high-quality instruction and academic support, and improve learning outcomes.

Model of Adaptive Tele-training for the Web ISO 14000 Environmental Standards
Sponsor: Université du Québec

The Télé-Université is developing a hypermedia learning model to be disseminated via the Internet. The model will address content, instructional methodology, learning activities and a support mechanism for learners. The aim is to offer flexible learning opportunities to workers who have varied competencies and cognitive styles. The model will be validated by and implemented during training in ISO 14000 environmental standards for industries. When it becomes operational, the model will be applied to other training situations.

Multimedia Training Observatory
Sponsor: Cégep de Bois-de-Boulogne

The Multimedia Training Observatory identifies and disseminates leading edge information on new models, applications, products and developments in the learning technology field. One of its major objectives is to link stakeholders in the field (i.e., business, governments, learning institutions and the public). In this project, the Multimedia Training Observatory is developing a website as an information source for those interested in development tools and training models that use multimedia learning technologies. The site will provide powerful search tools to help users access information on topics such as intranets or distance learning applications. It will also feature a virtual showcase, where users can try new learning software, development tools and commercial applications.

New Health Safety Learning Model in Mining
Sponsor: Laurentian University

Accident prevention is a priority in the workplace. This project is exploring how learning technologies can be applied to help companies in the mining industry learn and make decisions about industrial safety. It will examine two computerized decision support models. These are designed to help managers in the mining industry better understand health safety problems and develop strategies to address them.

New Technologies for Training Publishing Professionals
Sponsor: Simon Fraser University

With this project, the Canadian Centre for Studies in Publishing is seeking to identify how to best use learning technologies for professional development in the publishing sector, and develop a model to enable these professionals to use technologies in their learning process. The project includes two components: the Master-on-Demand Project tests different delivery methods to expand the geography of opportunity for the Master of Publishing program; the Writers and Editors Learning Network Project tests a network that links experienced publishing professionals with industry entrants. The OLT contribution will support research, consultation and prototype testing activities. Simon Fraser University will fund course development; the Cultural Human Resources Council will support a workshop for writers; and the Department of Canadian Heritage will support the development of two multimedia CD-ROMs for publishing professionals.

Office Technology Multimedia Program
Sponsor: New Brunswick Community College — Bathurst

This multimedia office management learning program provided Francophone workers and students at home, at work or in learning institutions through a network of French colleges and associations in New Brunswick, Nova Scotia, Prince Edward Island, Québec, Ontario and Saskatchewan. The OLT supported activities to examine existing programs and trends in the use of the Internet to deliver courses, identify the required academic components and determine how to evaluate learning via the Internet. It also supported the trial delivery to test the efficiency of the pedagogical approach and the student and technical support systems; assess the motivation of learners; and measure the costs for both learners and organizations. Partners developed the course content, provided equipment and CD-ROMs, and distributed the program to workers and students in their respective regions. The final report will be available during the fall of 1997.

Older Adults and Learning Technologies

Sponsor: University of Regina, Seniors' Education Centre

This project will further identify learning needs of adults aged 55+, help them to overcome their fear of and resistance to new technologies, and give them access to technology-based learning opportunities adapted to their needs. Activities in this project include developing, testing and carrying out an action plan for the strategies identified in the feasibility study (see project 59005); establishing a computer and multimedia laboratory/resource centre with learner support services; developing training materials adapted to the needs of older adults; and expanding the centre to a multi-node distance education delivery system that would reach out to older adults throughout Saskatchewan and beyond. The seniors centre will also work with Creative Retirement Manitoba to design and maintain a clearinghouse of information on all Canadian seniors' technology programs; develop and maintain an Internet on-line quarterly newsletter; conduct electronic symposiums and conferences; create a virtual learning space that older adults could access from their homes via the Internet; and document the impact of computer learning programs on seniors in general and on those with illnesses and disabilities in particular.

On-Line, In Business, At Home

Sponsor: Open Learning Agency

This action research project will assess the needs of adult learners with physical disabilities. It will also field-test the applicability and effectiveness of the Internet and videoconferencing to provide them with learning activities in their homes, work environments or learning centres. The project will be conducted in 10 sites across British Columbia in collaboration with a number of organizations for people with disabilities and First Nations learning centres. The project will involve 100 disabled adult learners, including 20 at home, and will use audio- and videoconferencing and the World Wide Web to participate in an entrepreneurship program that also includes virtual work experience. It is intended to test the model in a later phase with a number of sites in one or more other provinces. The project findings will be disseminated via the Internet, articles in professional journals and attendance at various conferences. Resource kits will be made available for instructors and learners interested in this learning model. In addition, the Knowledge Network will develop and broadcast a video to inform adult learners with disabilities of this new learning technology model.

Preparing School Principals for the Effective Use of IT

Sponsor: Canadian Association of Principals

School principals' knowledge, skills, attitudes and personal practices about learning technologies are paramount in determining how schools can integrate these technologies. This project will support the development of a strategy to prepare school principals to use learning technologies to transform learning, support adult learners, inform parents, train staff and create community centres for life-long learning. It will describe and develop a consensus on what knowledge, skills, attitudes and practices are required of principals. For the survey portion of the project, the Canadian Association of School Principals (CAP) will partner with the Council of Ministers of Education, Canada (CMEC), participating in a survey they are undertaking on teacher needs. An advisory committee for the project will include CMEC, the Canadian Association of Deans of Education, the Canadian Teachers Federation, and the Canadian Education Networking Coalition. CAP will meet with provincial and territorial education and training ministries to present their findings and recommendations. Results will also be disseminated widely to 15,000 school administrators through school communication systems, and to others via newsletters, the OLT website and the CAP conference.

Promises & Prospects of Technology & Women's Learning (The Janus Project)

Sponsor: Canadian Congress for Learning Opportunities for Women

The Janus Project will raise awareness about the challenges and opportunities that learning technologies present to women. It will conduct research, publish a discussion paper and hold a workshop on technologies and women's learning. The findings of the research will provide a broad socio-economic analysis of the impact of technologies on women's learning, and will be integrated into a discussion paper outlining trends, issues and areas for further exploration. This paper will provide the background for a workshop in the spring of 1997 that will bring together about 100 representatives from women's, literacy and adult education organizations, unions, industry and government.

Putting Learning at the Centre of the Web

Sponsor: Sir Sandford Fleming College

This project is evaluating how appropriate new and traditional forms of interactive instruction are when applied to web-based teaching and learning. The project also addresses the need to further explore how people learn and the ways web-based instructional methods and learning activities can best be adapted to learning needs. The project will pilot specific methods of on-line teaching and learning. Researchers will also design and develop a template to help practitioners make informed decisions about the conversion of courses to the web.

Researching and Testing Learning Technologies

Sponsor: Laurentian University

Laurentian University and its partners will research, test and evaluate the use of learning technologies (audio- and videoconferencing, computer-mediated conferencing, computer-assisted learning and the Internet) in a variety of credit and non-credit courses. They will create models for developing and delivering effective learning materials and will facilitate the sharing of experiences, knowledge and research in the use of technologies among post-secondary institutions, private-sector and community organizations across Canada. The project will develop learner-centred models and tools to enhance technology-based learning for students. It will also assist teachers, instructors and facilitators to integrate learning technologies in their practices. First, Laurentian University will develop formative and summative evaluations to provide an in-depth assessment of the effective use of learning technologies currently in use, and of the level of satisfaction experienced by the learners and instructors using the technologies. It will also conduct research into computer-mediated conferencing and computer-assisted learning and begin the development of courses using these technologies. It will use the results of the evaluations to make the necessary modifications to course materials and to begin establishing development and delivery models and policy. Throughout the project, training on the most effective use of learning technologies will be delivered to facilitators, faculty and students via the Internet or using the existing equipment of Contact North and partner institutions. The project will also provide training and tutoring to students on the use of the technology to access a variety of learning materials and resources.

Rural On-line Cardiac Education Project (R.O.C.E.P.)

Sponsor: St. Paul Hospital

R.O.C.E.P. is a community-based response for improved cardiac patient education for rural and remote populations of British Columbia. It will utilize the Internet to provide an interactive healthcare education program and promote lifestyle changes among patients suffering from coronary artery disease, the primary cause of death among men and women in Canada. The project will engage 120 patients, candidates for cardiac by-pass surgery, to compare the effectiveness of widely used traditional print-based education to an interactive computer-mediated education program that can be customized to the needs of individual patients. To collect data on rural versus urban accessibility, the selection of participants will include candidates from the Vancouver area and from the Okanagan Valley. The two experimental groups will self-identify by indicating that they (1) own and operate a computer and use the Internet and e-mail or (2) that they have some knowledge of computers, but use neither the Internet nor e-mail. Those who identify themselves as having neither knowledge of nor access to computers will be part of the control group. R.O.C.E.P. will be the first project to measure, through three survey questionnaires and a retrospective clinical chart review, the impact of the mode of education delivery on various patient outcomes such as hospital length of stay, use of healthcare resources, perceived quality of life, satisfaction and interaction with on-line education programs, and comfort with technology as a learning tool.

The Seniors' Education Centre's Learning Technologies Capacity

Sponsor: University of Regina, Seniors' Education Centre

This project will conduct a feasibility study to identify the learning needs of adults aged 55+, help them to overcome their fear and resistance towards new technologies, and give them access to technology-based learning opportunities adapted to their needs. Activities in this first phase include a literature review; assessment of seniors' learning needs; and evaluation of applicable hardware/software. The study will also identify potential partners and the resources they would be willing to commit. This project is related to OLT's efforts to minimize the potential for technology to marginalize segments of the population such as people with disabilities, women, Aboriginal peoples and seniors.

Strategic Technology Application for Rural Telework (START)

Sponsor: Eastern College

Eastern College has developed a computer-based learning model used in the Telework Training program. This project will develop and evaluate a more sophisticated (web-based) interactive model. It will enhance peer-to-peer, student-to-tutor and student-to-instructor interactions. A web-based model will increase group interaction, reduce the isolation effect and maintain learner independence. The project will provide an interactive model transferable to college-level courses in similar programs. This type of learning model will not only have an impact for rural communities in Newfoundland but potentially for similar communities across the country.

Study of Integration of Technology — Secondary Curriculum

Sponsor: Saint Francis Xavier University

The objective of the project is to study effective ways of integrating computer technologies, particularly the Internet, into the Nova Scotia secondary curriculum in order to effect a positive change in students' achievement. The first stage of this research project, sponsored by the National Labour Market Innovations Program of Human Resources Development Canada, identified key issues to be addressed, such as the training of teachers and students, integrating technology into the curriculum, equity issues and guidelines for the use of computers. This second stage will conduct a small scale, action research project to 1) develop a source of computer software 2) develop strategies to integrate computers and the Internet into school subjects; 3) promote equity in integrating computers into the curriculum; 4) explore and develop training models; and 5) develop policy guidelines for teachers for the effective integration of computers into the curriculum.

A Study of Various Pedagogical Approaches for Computer Training

Sponsor: Université Laval

Université Laval and Le Groupe LGS, a major private sector consulting group in Québec, will assess the effectiveness of different learning technologies such as television, e-mail, networking and Lotus Notes to provide computer training to university students on and off campus, as well as for worker skills upgrading. The project will address a number of questions on how particular approaches allow for full mastery of content, contribute to the development of professional attitudes and promote optimum learning.

Technology Integration in Teaching and Learning Environments (TITLE Project)

Sponsor: Mount Royal College

The project will implement and evaluate a comprehensive "Model for Transformation" as a basis for converting an entire post-secondary institution into an effective user of learning technologies. The model will build on a number of existing mechanisms and is designed to foster the development and application of digital technologies that enhance learning, increase learning opportunities and improve productivity. Key to the project will be the evaluation of the model and its elements, as well as a wide dissemination of effective applications of learning technologies, thus providing a model that may be replicated by other educational institutions. Major support is also provided by the province of Alberta.

Technology-Mediated Learning in Rural Community Access Centres

Sponsor: Mount Allison University

This project focuses on the effectiveness of technology-based learning methods for adults in rural communities who don't have easy access to computers. It targets community access centres established under the Community Access Program (CAP) sponsored by Industry Canada. The project is supported by the OLT and delivered in partnership with the Centre for Learning Technologies and the Rural and Small Town Program of Mount Allison University, working with Connect NB. The project will explore various ways community access centres can effectively use technology-assisted learning approaches to deliver academic upgrading to adult learners and to provide training to economic development volunteers in rural communities across New Brunswick.

The TeleLearning Institute Pilot Study

Sponsor: University of Waterloo

The TeleLearning Institute is an innovative model for workplace learning and professional development. This pilot project will provide learners with a series of monthly case study sessions. They combine real-time videoconferencing with Internet-based asynchronous interactions so that participants can fit learning activities around their work schedules. The course content will be based on real-life case studies to be developed in collaboration with Institute partners. Each monthly session will begin with a videoconference presentation of the case study and related theme content. In the following weeks, participants will use networked discussions and collaboration tools to explore the theme topics. They will also work in teams on a design project. At the end of the month, the results of each team's work will be posted on the Institute's website for assessment. Each case study will be closed by another real-time event with the entire group.

In the pilot project, participants will study how techniques from human-computer interaction research can be applied to the development of learning technology systems. The study will assess the effectiveness of the Institute model in applying learning technologies in the workplace. It will also determine the applicability of a case-based model for professional learning, and whether current technologies, both synchronous and asynchronous, meet the needs of working professionals.

Testing a Learning Model for People with Disabilities

Sponsor: Assistive Technology Centre Society

This project will test a model for delivering basic skills training, using adapted computer technologies, to adults with disabilities living in rural areas. The Assistive Technology Centre Society will test this model in home, work and community learning environments to determine the applicability, process and effectiveness of training in these three settings. A key feature of the project will be the training of volunteer tutors of persons with disabilities on the use of the adapted learning technologies for the delivery of basic skills training. Specific activities of the project include the design and delivery of an effective adapted learning technology academic assessment; the development of effective processes for the appropriate implementation of adapted learning technology in the learning environment; the identification of individual academic needs by learning technology assessment procedures; the provision and monitoring of the training of persons with disabilities within one of the three identified learning environments (home, workplace, learning centre); and the training of volunteer tutors and program facilitators to deliver basic skills training via adapted learning technologies.

Training and Mentoring Instructors and Course Authors for Telelearning
Sponsor: Simon Fraser University

Telelearning, or the use of networked multimedia workstations to create networked learning environments, is most effective when used to support advanced learning methodologies. Since most instructors and course authors have limited experience with telelearning technologies and pedagogies, training and mentoring is critical to the successful adoption of new learning technologies. This research project will develop and test a training program for instructors and course authors in the use of a virtual learning environment for the design, delivery and enhancement of computer-based courses on line. The Virtual-U software, developed by the Telelearning Network of Centres of Excellence, will be used by instructors and course authors to deliver on-line learning in their own organizations.

Training through the WWW, Part II
Sponsor: University of Alberta

This project explores a new model of problem-based learning using the World Wide Web. It expands on prior research on the use of WWW resources to enhance learning delivery in the classroom and distributed learning. The model is based on project-driven team activities: students are guided through the phases of a learning project using scenarios and alternatives specified by the course instructor. Academic research, student employment and professional programming resources are being funded by the University of Alberta and the provincial government. The OLT's contribution will support the testing and validation of the model, its delivery to pilot audiences in three different settings, and follow-up evaluation.

Using Multimedia to Deliver Science Programs
Sponsor: SIAST Woodland Campus

The OLT will support the testing and evaluation of a new interactive multimedia instructional science program. This program is designed to help prepare individuals for studies in the sciences (biology, chemistry and physics). It integrates scientific and Aboriginal perspectives to help increase the interest of Aboriginal adults in science. The program can be offered at a distance using Internet and CD-ROM technology. During this project, the program will be made available to a variety of adult learners at several sites, including community learning centres. Instructional procedures and materials will be evaluated, as will the effectiveness of using multimedia to deliver science programs.

Vocational and Trades Training and Upgrading Practices Using Learning Technologies

Sponsor: College of the Rockies

This project will produce a compendium of practices in the use of learning technologies to provide trades training and lifelong learning vocational upgrading. It will provide students, instructors and trainers with information on available interactive multimedia CD-ROMs and Internet-delivered courses for vocational and trades training. The project will develop a list of practices (computer-assisted instruction, computer-mediated courses, the Internet, videoconferencing, desktop conferencing and interactive CD-ROM) to provide training and upgrading in industry, organizations, universities and colleges in Canada, the United States, Great Britain, Australia and New Zealand. A first list will be identified mostly through Internet searches, correspondence and referrals by educational and training experts. Then, the list will be reduced to a selected number of cases for in-depth study and analysis via the Internet and through on-site visitations.

Appendix B: Case Studies

Effectiveness of Computer-based Training in the Plastics Industry

Information presented in this case study came from two sources: the project file maintained by the OLT and an interview with a representative of the project sponsor.

About the Sponsor

This project was jointly proposed by three applicants: the Canadian Plastics Training Centre (CPTC), Atlantis Information Technologies and Husky Injection Moulding Systems Ltd. CPTC was founded as a formal partnership to meet the workforce training needs of the plastics manufacturing sector. The participating partners include the plastics industry, labour, the federal and provincial governments and Humber College. Atlantis Information Technologies is a private firm engaged in the development of information technology applications. Husky Injection Moulding Systems Ltd. is a Canadian-owned multinational company which specializes in the design and manufacturing of injection moulding systems. Husky supplies 75% of the manufacturing systems used worldwide in the plastics PET bottle market.

Project Description

In March 1996, CPTC and its partners submitted a proposal to the OLT to test the effectiveness of interactive computer-based courseware for training workers in the plastics industry. This project met the OLT's objective of providing an understanding of the extent to which computer-based courseware can be used for distance delivery of training and the benefits this will yield to both learners and employers.

More specifically, the objective of the project was to conduct action-based research to:

- determine the effectiveness of interactive computer-based training to provide instruction in the workplace to production employees in the plastics injection moulding industry; and
- test the premise that computer-based training can provide an equal or better level of instruction in less time than the traditional classroom method. The results of this research will be of use to the approximately 2,000 companies in Canada engaged in the injection moulding industry.

More specifically, CPTC was to develop two computer-based modules, one on injection system start-up and one on system shutdown, based on existing Injection Moulder Operator Certificate training modules. The research design involved assembling the control groups and test groups which were to experience the two modes of instruction (computer-based and traditional). All participants subsequently completed a hands-on test to determine their level of proficiency and measure the effectiveness of the training. Focus groups were also organized with the participants to gauge their reactions to the two approaches.

It is hoped that this project will lay the groundwork for the introduction of distance learning to provide high quality on-site instruction designed to support training needs and certification standards in the plastics industry. It will also test procedures that will facilitate the process of prior learning assessment for future training and certification.

The initial schedule for this project called for it to begin in June 1996 and to be completed by the end of June 1997. Delays in the project implementation led to the end date being extended to March 1998.

The original project budget called for the OLT to contribute $159,993. The most expensive part of this project was the design and development of the interactive CD-ROM software used to deliver the training. A subsequent cost overrun of $29,430 was split between the OLT and CPTC.

The Sponsor's Experiences and Views

About This Project

The Canadian Plastics Training Centre had been thinking about technology-based training for some time. Humber College, of which the Training Centre is a part, has a director of government relations. Through this link, the OLT was contacted to see if an OLT staff member could meet with the Canadian Plastics Training Centre Joint Steering Committee. In that meeting, the OLT indicated that it was not in the business of funding software development, but would support assessment of learnware. A proposal was then struck as an action research project to test software.

The proposal was developed without reference to written materials from the OLT (as this was an early project). The CPTC project fits the first two objectives expressed by the OLT. It is currently testing the effectiveness of its CD-ROM-based approach to training as part of an effort to better understand the potential of learning technologies in this environment. It is also an action research project that fits with the research objective of the OLT.

CPTC prepared a draft of its proposal and got feedback from the OLT. OLT staff also met with the Board and outlined the OLT's requirements. Any assistance provided was both timely and prompt.

CPTC was not aware of the process for selecting projects. Quarterly reports were required. These were not onerous (one to two pages in length). This was viewed as a reasonable and fair requirement. Billing was made on a progress basis.

In terms of the incrementality of the OLT funding, there was "not a chance" that this project would have gone ahead without the OLT's support. It is a high risk project and outside of the core business for one of its partners (Atlantis).

In terms of support leveraged on the basis of the OLT funding, the two partners provided consultation on content (Husky) and programming (Atlantis). There were no other contributors.

The final report is still in progress. The requirement imposed by the OLT seems reasonable, and its expectations regarding these deliverables are both clear and simple.

At present, CPTC has no plans to disseminate the results of its project. However, it understands that the report will be available through the OLT, both in hard copy and on the web.

About the OLT's Involvement

Institutions like CPTC need to move towards learning technology. Providing seed funding for partnerships to get projects underway is crucial.

As a traditional educational institution, CPTC is not experienced as an interactive learnware developer. The OLT could have assisted CPTC by providing general program design consultation, for example, regarding the timing of assessments and choice of modalities. Assistance would also have been useful in relation to the marriage of instructional design and technology with content. The OLT might play a useful consultation role in the structural design. The OLT did not assist with cross-project sharing.

In terms of the OLT's overlap with other government agencies, CPTC does not know where else it would go for the kind of assistance provided by the OLT. The project was high risk.

With respect to increased awareness and use of learning technologies, the CPTC project sponsor has seen several companies promoting interactive learnware products, including in the plastics industry (although most of these are in the U.S. or Britain). In this regard, OLT spending is dwarfed by that of the private sector. This makes it difficult to establish what the incremental contribution of the OLT's efforts is.

Promises & Prospects of Technology & Women's Learning (The Janus Project)

Information presented in this case study came from two sources: the project file maintained by OLT and an interview with the project sponsor.

About the Sponsor

The Janus Project was sponsored by the Canadian Congress for Learning Opportunities for Women (CCLOW), a national feminist organization dedicated to addressing education and training issues for girls and women. Key focus areas of CCLOW are literacy, educational equity and job training. CCLOW was founded in 1979 and operates through its national headquarters in Toronto and 12 provincial and territorial networks.

Project Description

CCLOW first submitted a proposal to the OLT in October 1995. The objectives of this research project were to:

- define the scope and parameters of the new technologies in relation to women;
- review trends and identify issues as they will affect the structure and content of education and work;
- commence discussion on the implication of these trends and issues on women;
- outline strategies to respond to these trends and issues; and
- begin to build partnerships and alliances between women's groups, industry and the government to implement the strategies.

The targets of these efforts were women in general and key stakeholders interested in the area of new technologies and women's learning.

The Janus Project consisted of the development of a discussion paper on issues surrounding new technologies and how they will affect women's opportunities to learn, and a two-day conference to discuss the findings of the paper and identify areas for further work. The conference was held in Montreal in March 1997 and involved approximately 70 participants.

The OLT funding for the Janus Project commenced in May 1996 and ended in June 1997.

The initial budget called for the OLT to contribute $68,000. This budget covered both the cost of the discussion paper and the expenses of the conference and production of its proceedings. In February 1997, a supplement to the OLT's contribution was approved in the amount of $18,100, to cover enhancements to the conference program.

The Sponsor's Experiences and Views

About This Project

Our contact for this project did not draft the original proposal but was involved in some revisions to it. As this was an early OLT project, CCLOW did not have access to a written call for proposal materials. Our contact's recollection was that the original request for proposal and discussions of clarifications to the draft proposal were made by telephone.

The original proposal prepared by CCLOW called for a two-year project. However, the OLT wanted the time frame compressed into one year in order to show some tangible results from an early project. An additional modification to the original proposal was the removal of an annotated bibliography.

In general, the only difficulty experienced by this project of a communications nature concerned some billing requirements.

The Janus Project responded to the OLT's objective of promoting the effective use of learning technologies by establishing an understanding of how the development of learning technologies are not meeting the needs of women well. This project also addressed the OLT objective of increasing the availability of information about learning technologies through the preparation and circulation of a discussion paper and the holding of a conference.

No assistance in preparing the project proposal was either provided to or needed by CCLOW. The Janus Project was approved prior to the establishment of the current review process for applications. The process followed was, however, viewed as somewhat slow. This led to a compression of the time available to conduct the project. Our respondent was not familiar with the current published criteria for selecting projects for funding.

The project was required to submit quarterly progress and financial reports approximately two pages long. This requirement was regarded as not onerous, and as fair and reasonable.

In terms of the incremental effect of OLT funding, this project would not have gone forward without OLT support as it was but one of many priorities at the time for CCLOW. OLT support moved learning technologies forward so that the subject was addressed earlier than it would otherwise have been. In the words of our contact, the OLT "kick-started" the process.

OLT support enabled CCLOW to leverage funding for other in-kind support for this project by partnering with another non-profit agency (the Centre for Literacy) to host the Montreal conference.

CCLOW's participation in the OLT-funded project definitely enabled the organization to expand its network of contacts and partnerships in the learning technologies field. Specific examples include a partnership with a magazine publisher, participation in another conference on broader applications of new technology to women's issues, and a relationship with the Canadian Association of Distance Education. The Janus Project aided CCLOW to become more connected to other women's organizations working in the learning technologies area, and also to become more "wired" as an organization.

The final project report was described as not very onerous, being less than five pages in length. As an observation, our respondent found the final report to be largely descriptive as opposed to being an analytical tool addressing objectives achieved.

Our respondent found the financial accounting requirements quite confusing. She received different messages from the project officer and from the financial clerk on the accounting requirements.

In terms of disseminating the results of the Janus Project, conference participants received a discussion paper and a bibliography and the conference proceedings. These documents are available on the OLT website.

About the OLT's Involvement

The OLT did not have a high profile when the Janus Project was underway. In our respondent's view, the project could have been a lot better if the OLT had been willing to work with CCLOW to develop and refine the project proposal. It seemed that the OLT was prepared to sacrifice content for administrative conformity. Our respondent guessed that the project was perhaps 40% of what it might have been had the timing not been compressed. She speculated that perhaps the OLT wanted to be associated with an organization with standing in the women's learning area. CCLOW had to lower its standards of quality for this project because of the time frame.

In our respondent's view, a contribution program is a useful component of the OLT's efforts. She would recommend that more concern be directed towards the quality of the projects than may have been the case with the Janus Project. Overall though, OLT support certainly helped CCLOW to address its interests in the learning technologies field.

Our respondent was not aware of the OLT's activities in general. She thinks it appropriate that a federal government agency be involved, for example, because the Internet crosses borders. Also, access in rural areas to the Internet is limited; people with limited access could be left behind. She supports a national view for learning technologies with sensitivity to urban and rural differences, language and cultural orientation. The OLT can serve to address these issues.

The only potential overlap she was aware of between the OLT and other government agencies involved the Status of Women initiative on women in technology.

In conclusion, our respondent recommended that the OLT be more flexible than it was with the Janus Project to try to ensure that the projects be as complete and useful as possible.

Electronic Distance Education Network: The EDEN Project

Information presented in this case study came from two sources: the project file maintained by the OLT and an interview with a representative of the project sponsor.

About the Sponsor

The sponsor of this project was the Learning Centre, an agency of the Simcoe County Board of Education. For the purposes of the OLT proposal, the Learning Centre worked in partnership with the York Region Board of Education, the Hamilton Board of Education, the Etobicoke Board of Education, the Stormont, Dundas and Glengarry Board of Education, and the Chippewas of Mnjikaning-First Nations. In the past, the consortium of five school boards worked collaboratively to develop interactive courseware for the delivery of skills training and high school credits via the Internet. All the partners represent continuing education programs in their regions and focus on meeting the training needs of adults in their communities.

Project Description

The EDEN Project began its development in electronic distance education to serve adult clients who for, whatever reason, could not get to the regular classroom. The purpose of the project is to test the effectiveness of a fully functional Internet/intranet delivery system for providing education or skills training that adult learners may access from home, work, through local learning centres to other access points where there is an Internet connection. The system was revamped from an existing delivery model using an electronic bulletin board menu. Content includes an electronic access training course and manual which trains students in the use of a computer and gives them the skills required to function successfully with the telecommunications delivery system, as well as a 110-hour on-line interactive course on business accounting modelled on the new instructional design.

The new delivery system features e-mail, conferencing, teleconferencing, chat rooms and news groups, evaluation activities and administrative tracking. The pilot study assesses the impact of this type of delivery system on learners' performance, progress, employability and future training choices. It will also assess elements of instructional design, teacher delivery and Internet delivery for effectiveness or limitations. The pilot is to evaluate the educational, economic and administrative benefits that can be expected from the electronic distance educational technologies being developed and applied. In addition, the pilot will assess the viability of managing curriculum, communications and instructional activity through one server linked to numerous servers, workstations and users connected in a number of communities.

The project will involve adult learners in Ontario who are unable to attend traditional classroom training to obtain high school course credits. The system is being tested for use by students regionally, provincially, nationally and internationally, particularly those who are unemployed, workers interested in upgrading skills, disabled adults, Aboriginal peoples and women working at home.

The contribution agreement calls for the EDEN Project to begin in June 1997 and to end in October 1998.

The OLT was expected to contribute $95,550 to the approved budget for the EDEN Project.

The Sponsor's Experiences and Views

About This Project

The sponsor of this project first became aware of the OLT and the Contribution Program through the efforts of its local HRDC manager, who provided the final call for proposals document. The project sponsor found the call for proposal materials to be clear and complete.

This project responds to all three of the OLT objectives. It has promoted the effective use of learning technologies by being the first organization in Canada to deliver high school credits via the Internet. The project also has a strong research component which met both the EDEN Project's needs and those of the OLT. Finally, the project plans to increase the availability and sharing of knowledge about learning technologies through materials published on both its and the OLT's websites and hard copies of the reports distributed to its stakeholders.

The sponsor experienced no difficulties in responding to the call for proposals. Any questions were promptly answered by telephone. No substantial changes were made to the proposal as a result of contact with the OLT.

The process followed to review proposals by the OLT was viewed as entirely satisfactory, with the exception that it took three to four months for a decision to be announced. Our contact was quite impressed with the peer review process followed by the OLT, especially its use of qualified reviewers, and recalled the selection criteria as promoting the objectives of thorough research, value to the marketplace and innovations in the adult education area.

The project was required to submit quarterly reports approximately two to three pages long plus financial statements. This requirement was not viewed as a burden. The three-month gaps between progress reports allowed for them to present some substantial progress.

In terms of the incremental effect of OLT funding, this project would have gone ahead without the OLT support, but not within the same time frame. It would have been extended over perhaps two more years, a period of time during which it might not have been sustainable. The scale would have been smaller, and there would have been no research component.

OLT support did not lead to leveraging of support from other sources as no such support was required.

The sponsor's participation in this project has enabled the organization to expand its networks of contacts through speaking at conferences about the project, and attending OLT-sponsored conferences on other subjects. In the organization's view "networking is everything." It enables the sponsor to develop partnerships and to identify possible customers for its products.

This project is to summarize and publish a research report on the effectiveness of its delivery platform and of its impacts on learners. When completed, these reports will be available both on the website and the OLT website and in hard copy. In the project's view, these requirements are both fair and reasonable.

About the OLT's Involvement

The respondent for this project views the OLT as generally on the right track to date. Our contact suggested that the OLT might usefully direct some more of its efforts towards facilitating partnership building at a local level. This might be accomplished through the setting up of some kind of a regional consulting service to assist agencies and individuals active in learning technologies to identify each other and work together effectively. Such an approach might enable the OLT to help fewer projects be more successful than the current approach.

The OLT's national focus is seen as valuable. The Internet clearly crosses all boundaries, and a national focus may help to prevent duplication of effort as the learning technologies field evolves.

With respect to overlap with other agencies, Industry Canada is seen as building the infrastructure. The respondent was not aware of any other agency which focuses on learning technologies from the same perspective as the OLT. Our contact would encourage further collaboration between Industry Canada and the OLT as the OLT develops projects to make use of the Industry Canada-sponsored infrastructure.

The respondent sees the main OLT contribution as helping projects to become better known through conferences and publications. Networking has been very beneficial for the sponsor, enabling it to link with related organizations across the country.

The Canadian Network for New Media Learning

Information presented in this case study came from two sources: the project file maintained by the OLT and an interview with a representative of the project sponsor.

About the Sponsor

The primary sponsor for this OLT project was the Alberta Association of Courseware Producers (AACP), a provincial non-profit organization dedicated to:

- presenting Alberta courseware products and services to provincial, national and international communities;
- expediting access to our member companies by potential clients; and
- promoting partnerships between and among courseware producers and other organizations.

The other two partners were these:

- The *Forum des Inforoutes et de Multimédia* (FIM), an association with the mandate of promoting industries involving digital content and interactive applications. FIM is open to all participants and users of the new media. Members include computer graphic designers and animators, programmers, developers, distributors and financial and government institutions; and

- Skillnet, a partnership set up by Simon Fraser University, the B.C. Institute of Technology and the Science Council of B.C. to identify and provide training and educational services which are in demand by B.C. industry in a time-efficient and cost effective manner.

Project Description

This project was built on three existing learnware sites in Alberta, British Columbia and Québec to provide a national clearinghouse of courseware. The overall goal of the project was to provide a central focal point for Canadians to use in accessing information about education and training, as well as a "virtual" place to take that training. More specific objectives were to:

- expand current databases to include all Canadian educational learnware products and services, and use these databases to present these products and services to potential learners; and

- provide mechanisms for the on-line purchase and delivery of the product and services to learners.

This project began in November 1996 and concluded in June 1997.

The OLT's contribution amounted to $137,000 of the approved budget for the project.

The Sponsor's Experiences and Views

About This Project

AACP first became aware that the OLT was funding projects through a long-time contact at Industry Canada. This individual suggested that AACP submit a proposal to receive support for its project. As this was very early in the OLT's existence, no guidelines were available for proponents. The respondent was familiar with more recent OLT communications materials, including the call for project proposals, and rates them as clear and comprehensive. She noted that, in general, the OLT's materials and other communications have improved as time has passed.

The AACP project fits most directly within the OLT's broader objectives of permitting the effective use of learning technologies, and increasing the availability and sharing of knowledge and quality information about learning technologies. These objectives were accomplished quite directly through the project's development of the comprehensive national database of learnware products and the capacity for potential users to obtain the products and services listed within the clearinghouse.

As noted above, the AACP project was among the first funded by the OLT. Consequently, there were no clear guidelines available to applicants for contribution funding. The respondent observed that while no specific assistance was provided to AACP to prepare its proposal, OLT staff were, nevertheless, as helpful as they could be. If anything, only the timelines suffered because of the limited availability of OLT staff. Our contact suggested that the OLT was, to some extent, overwhelmed by the initial wave of funding applications.

The OLT's process for reviewing applications for project funding was seen to have been as fair and expeditious as it could be. The respondent's only misgiving was that the process seemed to favour academic post-secondary applicants as opposed to private sector applicants. In her view, there was too much emphasis on research studies and not enough on support to develop the learnware and multimedia industries. She also thought that there was some duplication of effort across funded projects. She recognized that this may have been, to some extent, hard to avoid in the OLT's early days when staff were stretched and administrative systems were still evolving. In relation to this duplication observation, she recommended that the OLT promote more linkages across similar projects. As an example of this, she observed that AACP's project was quite similar to one funded in the same period in Québec.

The respondent's view regarding ongoing progress reporting, is that the OLT's requirements were both fair and reasonable. As the AACP's project lasted only approximately six months, the sole formal requirement was for a final report.

Although the AACP project was built on two pre-existing learnware sites, the OLT's support enabled the project to go beyond what would have been done without this funding. Our contact views the organization's ability to start up a new national association as incremental to what would have happened without the OLT support.

The OLT funding also enabled the project to leverage funding support for related activities from both Industry Canada and the federal Department of Foreign Affairs and International Trade.

AACP participation in the OLT-funded project contributed to the expansion of the AACP's network of contacts and partnerships and, more importantly, enabled users of the organization's clearinghouse to expand their own such networks. This is seen as one of the most important functions served by the clearinghouse.

The respondent views the OLT's final reporting and financial accountability requirements as both entirely fair and reasonable. These were limited to a final report on the project and the submission of accounts and invoices.

Dissemination of the results of this project will take place through user access of the Network's website, through its network of individuals promoting the clearinghouse, and its participation in conferences. The OLT has also contributed to raising awareness of the Network through its own website.

About the OLT's Involvement

While generally quite positive about the OLT's contribution to AACP's project and about the progress of the OLT staff to date, our contact made a number of observations about the OLT and about the involvement of the federal government in the learning technologies area more generally.

As noted above, the respondent views the OLT as thinking about formal, post-secondary learning institutions (colleges and universities) well before it thinks about private industry. She thinks that the OLT should provide less support for research studies and more support for the production and marketing of learnware. Support for these latter activities could take the form of loans as opposed to grants. To some extent, she sees the OLT building a research industry and not a production industry. This may reflect the OLT's (as well as other government departments') comparative lack of familiarity with the private sector, compared to the post-secondary institutions, as well as the relative sophistication of post-secondary institutions in responding to calls for proposals.

Our contact's major concern about the OLT's general direction may be the need she sees for it to work more collaboratively with other federal departments involved in learning technologies. She particularly singled out Industry Canada, Canadian Heritage and the Department of Foreign Affairs and International Trade (DFAIT) as important players in this arena. She sees a need for a "national team" sales marketing effort, and for a co-ordinated and consolidated plan which might make use of Industry Canada and Canadian Heritage staff across the country as well as DFAIT embassy staff around the world to promote Canadian learnware to the full range of potential users and customers.

While she sees value in the OLT's support of projects through the Contributions Program, she believes that more effort should go into the "glue" between projects, meaning support for collaborative efforts across related projects. This echoes her view expressed above that the field, in general, needs co-ordination so that resources may be pooled and organizations may work together efficiently to achieve common objectives.

She sees a federal role in this field as proper, valuable and necessary. She fears that someone at the federal level needs to promote and support the development of learning technologies in Canada. She referred to several other countries, notably Australia, which are making a much larger public investment in this area than is the Government of Canada. In her view, the optimal solution would be a new federal department that would pull together those pieces of Industry Canada, Canadian Heritage, HRDC and DFAIT that are involved in learning technologies. The objective would be to make the industry thrive, and build on Canada's expertise in distance education and communications. This would be accomplished through loan rather than grant funding for the development of the production and marketing capabilities of the learnware industry.

At present, she sees some overlap of the OLT's efforts with those of Industry Canada in particular. Both support seminars and both maintain databases on learnware. She also commented more generally that many provincial governments and educational institutions are active in the learning technologies area. In this context, there is a real need to connect interested parties through a central, preferably national, agency.

When considering whether awareness and use of learning technologies is increasing and pondering the OLT's contribution to any such increase, the sponsor thinks it is necessary to separately consider post-secondary users, Kindergarten to Grade 12 users, workplace users and home users. While it is clear to her that awareness and use of learning technologies is in fact increasing, she views the OLT's contribution to this growth as primarily in the post-secondary sector. Nevertheless, any such OLT contribution must be small in percentage terms.

Finally, she views the OLT as having done a sterling job with the resources available to it to date. She views its administrative processes as entirely satisfactory and reasonable. She believes that its future priorities should focus more on "connecting the dots," meaning supporting working relationships among institutions and private sector firms already active in the learning technologies area in order to reduce duplication of effort and build a strong and vibrant Canadian learning technologies industry.

On-line, In Business, at Home

Information presented in this case study came from two sources: the project file maintained by the OLT and an interview with a representative of the project sponsor.

About the Sponsor

The Open Learning Agency (OLA) specializes in the delivery of distance education and training through a variety of advanced technologies. OLA works with a wide variety of partners from industry, government and other educational institutions. It is funded by the British Columbia government and by grants, tuition fees, sales, donations, sponsorships and partnerships. OLA's headquarters are in Burnaby, B.C.

The Open Learning Agency offers the following:

- The Open University (OU), which provides accredited university courses through distance education;
- The Open School program, which uses innovative course designs and the latest in interactive technology to deliver course material to students in Kindergarten to Grade 12;
- The Knowledge Network, B.C.'s educational broadcaster;
- Workplace Training Systems (WTS), which offers training solutions using a variety of on-site and remote technologies; and

- The International Credential Evaluation Service (ICES), which was launched in January 1996 to provide immigrants and Canadians educated abroad with a vehicle to evaluate their education credentials.

Project Description

This action research project is to assess the needs of adult disabled learners and field test the applicability and effectiveness of learning technology training in the context of an entrepreneurship skills development program. More specifically, the objectives of the project are to:

- test the application and effectiveness of learning technologies for adult learners with physical disabilities;
- support research into and assessment of the learning of adults with disabilities;
- extend learning opportunities for people with disabilities;
- support policy development, identification of best practices and information sharing; and
- prepare appropriate material for wide dissemination.

A research component of the project is to involve 100 adults with different physical disabilities who will follow the training in different sites in B.C., including approximately 20 who will do so at home. Participants will use audio- and videoconferencing and the World Wide Web to participate in an entrepreneurship skills development program which also includes virtual work experience. Learners will receive support from on-site facilitators or on-line mentors, as appropriate. The project will also carry out an extensive formative assessment that will provide an "environmental scan" of the state of technology implementation, the attitudes of disabled adult learners toward technology and entrepreneurial activities, and the technological skills of disabled adult learners.

The project findings will be disseminated through the Internet, articles in professional journals and attendance at various conferences. Resource kits will be made available for instructors and learners interested in this learning model. In addition, the Knowledge Network will develop and broadcast a video to inform adult learners with disabilities of this new learning technology model.

Funding for this project commenced in November 1996 and is to run until the end of June 1998.

The OLT is expected to contribute $200,000 to the project.

The Sponsor's Experiences and Views

About This Project

The project manager first became aware of the OLT through the OLT's website. The Request for Proposal (RFP) was downloaded from the OLT website without any difficulties. The RFP itself was reported to be clear and complete. In general, the OLT website received a very favourable review from the project manager.

Overall, the objectives expressed by the OLT are similar to those of the research and development group within OLA. The OLT's first objective, to promote the effective use of learning technologies, is most applicable to this project, but the others apply as well.

No assistance was required to prepare the proposal. The tendering process is routine at OLA.

As this was an early OLT project, the project manager believes that the review of the OLA proposal was done in-house by the OLT. After submitting the proposal, one meeting was held with OLT staff and the application was approved. The time taken by the review process slowed the project schedule somewhat; OLA missed a September start and an anticipated mesh with a related project. The project manager's perception of the OLT's selection criteria is that they are sound and not a rubber stamp.

Progress reporting consisted of quarterly reports submitted to OLT. These reports generally run 10 to 15 pages in length. The project manager tries to have the reports address the criteria expressed in the RFP for the Contribution Program. OLA also tries to keep its website up-to-date on the project's progress. This website has links to the OLT's website.

The OLT's support for this project was described as invaluable. Without it, OLA may have been able to proceed in a limited fashion with this project. The major change required would have been to try to get the participants to fund the project. However, most of the participants do not have the resources for this.

The OLT support did not lead to any direct leverage of funding from other sources for this project.

Participation in this OLT-funded project has enabled OLA to open up a whole new realm in the community development field. Open School has a Kindergarten to Grade 12 emphasis, but OLA's mandate is broader. The OLT project led to contact with community support services for special needs populations. OLA sees a need to extend distance education access to the disabled, many of whom lack Grade 12 education. Program participants can build on this participation to support further workplace-related training later.

At the conclusion of the project, reporting to the OLT will consist of a final quarterly report and a detailed evaluation report. All of these resources will be available on the OLA website and in hard copy. OLA would support the OLT's wider distribution of project materials through its website.

About the OLT's Involvement

In contrast to the situation for high school students, little funding is available to support increasing access to learning technologies for adults. The OLT fills this gap.

The project manager supports the Contribution Program. Within OLA, research and development projects have to be externally funded. The project manager sees increasing competition from outside Canada for distance education products. Support for Canadian development of these kinds of products is essential if Canada is to be competitive in this field.

The project manager sees a clear need for a federal role in promoting learning technologies. The federal government is already promoting the information highway. She feels that there is a need for research into the best uses of the information highway and that if this initiative is left to the provinces, the approaches followed will vary from province to province. The project manager says that the federal government needs to address the gap between "haves and have-nots" in information technology. There is also a need to address inter-provincial standards for learnware.

The project manager is not clear on the extent to which the OLT's efforts overlap with those of other government agencies. She recognizes that Industry Canada, CANARIE, ministries of education and the National Literacy Secretariat are working on projects related to the OLT's area.

With respect to the current project, the project manager views the OLT's contribution as having enabled OLA to enter a neglected field (i.e., adult disabled learners). Project participants were able to use technology for important and practical purposes and to move forward independently. OLA is currently trying to create a community of facilitators on-line (located throughout B.C.). This community will have the objective of helping disabled adults use learning technology to access educational resources and live more independently.

As a final point, it was noted that OLT staff provided no actual feedback on the content of the reports submitted to them. The reports per se tend to be a somewhat pro-forma attachment to the invoices.

A Framework for Policy and Socio-Economic Studies of TeleLearning Technologies

Information presented in this case study came from two sources: the project file maintained by the OLT and an interview with a representative of the project sponsor.

About the Sponsor

The formal sponsor of this project is Simon Fraser University and its School of Communication. The university's key partner in this project is the TeleLearning Network of Centres of Excellence (TLNCE), which is a national collaboration linking Canadian researchers and client communities involved in the development, application and evaluation of advanced education technologies based on collaborative learning and knowledge building.

Project Description

This research project is to examine the micro and macro policy environments of learning technologies in order to better understand the pressures on those who seek to utilize or develop new technologies for telelearning, as well as for individual learners. The issue will be approached in two streams:

- the first stream will examine policy at the level of universities, colleges and corporate sites that make use of telelearning. It will also document provincial and federal policies that impact on learning technologies, and review policy development processes and rationales for policies in place or under development. Learning issues will be identified through surveys of institutions and governments; and

- the second stream will identify new policy issues arising from the implementation of telelearning technologies and establish a framework for further policy research and action.

The project is to undertake the following research activities:

- develop a methodology for systematically surveying institutional and governmental policy and policy development that affect the deployment of telelearning technologies across Canada;

- test the methodology on a pilot basis with a subset of Canadian institutions delivering web-based courses;

- disseminate the findings on a website as an aid to discussion among university members and with other interested parties;

- initiate face-to-face and on-line discussions with users and developers of telelearning technologies on the importance of contextual factors;

- initiate a dialogue on this experience at the university annual conference and maintain the dialogue through website discussion;

- organize and facilitate workshops on socio-economic and policy issues for academic, industry and government sectors to brief them on the outcome of the research and to further new research.

At the conclusion of the project, the university will have done the following:

- conducted a survey of institutional and government policies on learning technology, analyzed the data and shared the findings with other researchers and stakeholders;

- organized and facilitated face-to-face and electronic discussions among researchers and stakeholders;
- presented the findings at the TLNCE national conference; and
- organized and facilitated two workshops on policy and socio-economic issues to further discussion on new policy directions.

The target audience of this project is TeleLearning Network researchers, learners, developers of learning technologies and infrastructure, policy makers of universities, colleges and corporations, government agencies responsible for creating and implementing policy in this area, and other researchers and practitioners interested in the socio-economic and policy implications of telelearning.

This project began in January 1997 and was originally scheduled to be completed by March 1998. However, the project duration was subsequently extended to the end of March 1999.

The OLT is contributing $130,000 to this project.

The Sponsor's Experiences and Views

About This Project

The project sponsor first became aware of the OLT through its partner in this project, the TeleLearning Network Centre of Excellence. The TLNCE had identified a need for a study of policies related to learning technologies. It has an ongoing stream of projects pursuing various socio-economic themes. The project sponsor was contacted by the TLNCE to collaborate on the proposal which subsequently received funding support from both the OLT and TLNCE.

TLNCE made all of the early contacts with the OLT and defined the project to conform to the OLT's criteria and requirements. An early draft elicited a response to OLT to give more emphasis to learners' issues.

This project fits with the OLT's second objective of supporting assessment research and testing related to early learning technologies in that it was a research study of policies on learning technology in a range of organizations and institutions. The research report will, by definition, provide information about these policies. The respondent was not really aware of the OLT's communications materials related to the applications for contribution funding. Our contact is, however, familiar with the website, describing it as "an excellent resource" and has also participated in on-line fora supported by the OLT.

Ongoing progress reporting consists of quarterly reports to accompany financial statements and invoices. Project staff have never been entirely clear on what the OLT expects in terms of the content of these quarterly reports. There is some sense that they are pro-forma and of limited interest to the OLT, except as support for the financial materials. Project staff have also found the financial reporting requirements somewhat difficult. In particular, providing projections of expenditures was troublesome. As well, the financial management procedures within the university have made it difficult to support OLT's requests for spending projections.

Without OLT support, this project would have proceeded with TLNCE money only. This would have resulted in a smaller project using part-time staff and lower expectations of quality.

Expansion of the project staff's network of contacts in the field is one of the clear outcomes of this project. In essence, the content of the work was making such connections.

This project is to run for approximately one more year. Project staff's expectation is that the final report will discuss the best practices in colleges and universities for implementing learning technology policies, and broader related issues. At this point, however, project staff have no clear understanding of what the OLT expects of this final report.

Dissemination plans for the results of this work include participation at the TLNCE annual conference, academic publications and presentations at other professional conferences. To date, the OLT has not indicated what it will do to disseminate the report, although the expectation is that it would be available on the OLT website.

About the OLT's Involvement

The Contribution Program makes sense to the project sponsors in that it is creating activity in the learning technologies field. They are less certain about the extent to which OLT-generated activity is incremental, however. They are also impressed with the expert panel convened by the OLT; it has good representation from the field. Participation in the on-line fora set up by the OLT appears to be limited to those "in the know." They perceive the biggest challenge facing the OLT to be that of moving beyond the educational community. For example, community learning networks will need active support from the OLT to develop content and become sustainable. They perceive the ultimate success of the Contribution Program as depending on the OLT's ability to disseminate the results of these projects.

They support a federal role in furthering the development of learning technologies. This view is based on the fact that the project is in the process of examining all provincial policies regarding learning technologies. They have observed little overlap between the federal government and the provinces. They see the OLT focus on assessment and research as an important role for a federal agency. They also perceive a clear need for a national policy forum on learning technologies. With respect to overlap, Industry Canada emphasizes industrial development. The aim of Industry Canada's Notemakers' program is to help post-secondary institutions get their courses on-line. The OLT's focus, on the other hand, is on learning.

The OLT's efforts have helped Simon Fraser University's School of Communication establish a presence in the educational community and among "early adopters." The school needs, however, to branch out. Suggestions were made that there be better co-ordination among government departments. The sponsors also suggested that the OLT improve its communication with contribution recipients regarding their expectations for progress and final reports. They also find it hard to learn about what other projects are doing; the OLT could help by linking related projects.

Computer-Assisted Learning in the Construction Industry: Testing the Effectiveness of Contextually Designed Programs

Information presented in this case study came from two sources: the project file maintained by the OLT and an interview with a representative of the project sponsor.

About the Sponsor

This project was sponsored by the B.C. Construction Industry Skills Improvement Council's ***SkillPlan***, a not-for-profit society drawn from labour and management to develop strategies for people within the industry to upgrade basic skills, the foundation on which technical skills are built. ***SkillPlan*** was established in 1991 and receives financial support from some unions belonging to the B.C./Y.T. Building and Construction Trades Council, representing 45,000 trades workers, and some employers who are signatories to agreements negotiated by Construction Labour Relations, representing 500 to 600 employers and both the federal and provincial governments.

Project Description

In collaboration with industry partners, one of which is the Painting Industry Joint Trade Board, ***SkillPlan*** will test and evaluate how effectively learning technologies prepare trainees for apprenticeship and journeyperson certification. Key areas of evaluation include the identification of appropriate uses of learning technologies and software products available with authoring components, the feasibility of delivery models and the impact of this technology on successful performance in trades training. At the same time, while using learning technologies, workers will be preparing for the inevitable introduction of technology in both construction workplaces and in technical training.

This project was originally scheduled to run from April 1997 to June 1998. However, the project schedule was subsequently extended to September 1998.

The OLT's financial contribution to the project was $100,000.

The Sponsor's Experiences and Views

About This Project

The Council first became aware of the OLT through its ongoing relationship with the National Literacy Secretariat at HRDC. Contacts there encouraged the Council to find out more about the OLT and its Contribution Program.

The Council had access to the published call for proposals. It found the contents of these documents to be clear and complete. It had hoped to submit its form electronically but found it was unable to download the electronic form for this purpose. In retrospect, the Council would encourage the OLT to allow more flexibility and creativity in its proposal process.

The Council's project responds to all of the OLT's formal objectives to varying degrees. It seeks to promote the effective use of learning technologies by supporting the development of product applications of these technologies in the construction industry. The project included a strong element of assessment, research and testing, and dissemination of the results of the research. In the Council's view, use of learning technologies is of interest to many potential users in the construction industry. The future will see many 40 to 50-year-old workers upgrading to meet the challenges of learning to use new products and equipment safely. Creative application of learning technologies enables flexible content and delivery regardless of the location of the learner. These characteristics of learning technologies may facilitate access to new and upgraded job skills for adult learners.

The Council did not require assistance from the OLT to prepare its application for project funding. After the Council was short-listed, the OLT proposed several questions for clarification, which were answered in a letter of approximately two pages. The Council was not aware of how its proposal was reviewed. Formal criteria seemed reasonable.

The OLT was somewhat slow in its response to the proposal. This caused the project to slip its schedule as the Council can do no training in the summer, because summer is a peak employment period when training is not normally offered. Overall, this delay made a difference of three months or so.

Ongoing reporting requirements consisted of quarterly reports with financial attachments. One quarterly report prepared by the Council was 16 pages. The Council found this onerous. While it is equipped to do this kind of reporting and analysis, time spent on these requirements detracts from direct project work. To some extent, it appeared to the Council that the substance of the reports is less important to the OLT than its academic-like appearance.

In retrospect, the Council did not know how its project was positioned with other successful Contribution Programs. As it is a "grassroots" organization and unable to "compete" with institutions that have departments devoted to multi-media production, the Council is concerned that the OLT will not review its project on its own merits, but rather with comparison with organizations which they cannot match in scope and scale.

The Council had some trouble with the financial reporting expectations of the OLT. On occasion, it wanted to reallocate funds within the budget in light of ongoing experience with the project. Accounting requirements such as those imposed by the OLT may constitute a particular burden for not-for-profit organizations.

This project would not have taken place without OLT funding. At the same time, all bodies responsible for trades training in B.C. are interested in computerized training. As a not-for-profit society, the Council has to rely on project money for initiatives such as this.

The project received very substantial in-kind contribution in terms of instructor's time and use of facilities. The Council believe that international unions will want to support more materials of the kind developed in the project, especially for use by older workers and apprentices.

The Council's experience with the OLT-sponsored project has led to a widening of its contacts, including recent contacts with NAIT and VCC. In retrospect, the Council recognizes that partnerships need substantial lead time to develop. The schedule for this project did not provide for this reality.

With respect to the final reporting and accountability requirements, the Council is still not entirely clear on the OLT's expectations. The suggestion has been made that academic-style reports are favoured. The Council, however, does not see this style of reporting as appropriate to its project. It was told "the report should be of use to other groups." However, if that means that it should be academic in style, then the report will not be useful to groups like the Council.

Regarding dissemination of results, it is most important to the Council that potential partners (meaning building trades training plans) can learn from what it has done in the project. Two potential projects are being considered to build on the experience gained in the OLT project. The final report of this project will be available both in hard copy and on the web, as well as through the OLT.

About the OLT's Involvement

The Council believes that the OLT should broaden its focus to encompass groups outside academia. This would result in more practical and varied products.

The Council respondent believes that people in the training field know what they need to do in the OLT area. OLT could assist these groups to define their research, develop their proposals, understand what they are taking on and report their findings in a manner which most effectively contributes to the development of learning technologies in these fields.

The respondent sees an important role for the federal government in furthering the development and use of learning technologies. The Council is not aware of any other source of funding for this kind of development. Our contact also is not aware of the OLT overlapping with any other agency. As the respondent sees it, the value of the OLT is "the quality that's possible ... the thinking time."

The Council had no contact mediated by the OLT with any other funded projects. It has, however, seen the published lists of OLT-funded projects.

In the respondent's view, the OLT's approach does not compare favourably with the approach taken by the National Literacy Secretariat at HRDC. This second HRDC organization gets interested in and involved with the issue more actively than has been the Council's experience with the OLT.

The Senior's Education Centre's Learning Technologies Capacity

Information presented in this case study came from two sources: the project file maintained by the OLT and an interview with a representative of the project sponsor.

About the Sponsor

This project was sponsored by the Senior's Education Centre at the University of Regina. This centre is the oldest and most highly developed of five Canadian university or college centres specializing in older adult education programming and related applied research. It has also experimented with offering non-credit distance education via satellite campuses and the Saskatchewan Communications Network.

Project Description

The purpose of this project was to assess the learning needs of older adults and evaluate technologies (hardware and software) that are available to satisfy these needs. The objectives of the project included these:

- to identify the learning needs of older adults;
- to help older adults overcome their fears of and their resistance to new technologies; and
- to create access to opportunities for technology-based learning, adapted to the needs of older adults.

As the first phase of a longer-term research project, this project included the survey-based assessment of the learning needs of adults aged 55 years and over related to computers and other learning technologies, a review of the existing literature on older adults and learning technologies, and an assessment of computer and multi-media hardware/ software that satisfy the learning needs of older adults.

The project also identified potential partners and the resources they would be willing to commit to the long-term research project. Finally, a strategic plan was developed within the Senior's Education Centre for a three year project to develop the learning technologies capacity for older adults.

This project was originally scheduled to run from March 1996 to the end of December 1996. However, the end date was extended to the end of March 1997.

The total cost of this project was $59,760, all of which was supplied by OLT.

The Sponsor's Experiences and Views

About This Project

The Senior's Education Centre received a telephone call from the OLT seeking an expression of interest from the Centre in developing a proposal regarding learning technology applications for seniors. As these were early days for the OLT, the telephone contact provided all the information available to the Centre at that time about the Contribution Program and its requirements. As the results of this feasibility study led to a three-year project, the sponsor was familiar with the forms currently used by the OLT for its calls for proposals, and finds them to be clear and complete.

This project responds to all of the OLT's broader objectives with the exception of that concerned with testing learning technologies. It promotes the effective use of learning technologies by identifying seniors' needs related to learning technologies in order to ensure that they are not left out of progress in this area. As well, the feasibility study involved both primary and secondary research related to learning technologies and increased the availability and sharing of knowledge about learning technologies through its literature review and the conference held after the feasibility study.

While assistance from OLT staff was neither needed nor supplied relative to the application for the feasibility study, the Centre did receive help from the OLT with its proposal for the three-year follow-up project. This consisted of some negotiation over budget totals, which led to a paring down in these, as well as an expansion of the partnership element of the three-year study. In all, the three drafts were developed and reviewed, with input from OLT staff related to the substance of the work and not merely to its administrative elements. The respondent for the sponsor reports that the process followed by the OLT to review its application for the three-year follow-up project was open, fair and expeditious. He views this as a "nothing but positive experience." He regards the selection criteria for project funding to be both clear and consistent with the OLT's mandate.

The feasibility study was only nine months long. In this time, the Centre prepared quarterly progress reports of two or three pages with financial statements appended. It also prepared a final report which was, in effect, the basis for its proposal for funding for the three-year follow-up study. The respondent regards the OLT's requirements in relation to reporting to be both fair and reasonable. He also found OLT staff reasonably flexible regarding delivery timelines for the feasibility study report.

The incremental effect of the OLT's support for the feasibility study is clear. The OLT funding provided a "kick-start" for the entire initiative. There was no one else to do the work prior to the OLT funding. The project director was hired specifically for the feasibility study on this basis.

The OLT funding also enabled the project to leverage other support from the university, including clerical help, office space and equipment. Additional space was also recently supplied for a seniors' computer lab to be developed. In Phase II, the Centre also began talking to other partners, including SaskTel and the Saskatchewan Communications

Network (educational TV). The three-year study also involves a collaborative effort with Creative Retirement Manitoba.

The final report of the feasibility study was used in large part as a basis for the subsequent funding proposal for the three-year follow-up. Financial accounting requirements were described as fair and reasonable, and payment of invoices was prompt.

Dissemination of the results of the feasibility study included preparation of final reports in English and French by the OLT and placement of summaries of these reports on the OLT website.

About the OLT's Involvement

The respondent believes that the OLT is on the right track in the sense that it treats technology as a learning tool. It is also, in his view, trying to bring together people from across the country with disparate backgrounds. He also appreciates the stress it is placing on lifelong learning, and considers the community learning networks and community development thrust to be very exciting and timely.

With respect to whether a Contribution Program is the best vehicle available to the OLT to meet its objectives for these resources, in the case of this particular project, the "seed money" was extremely helpful. In addition to providing the necessary basis for conducting the feasibility study, it also enabled them to secure other partners. Being able to point to funding support from the OLT gave the project the credibility it needed to approach these other partners for their support.

The respondent believes that some federal agency needs to be involved in providing learning technologies; he doesn't know who else would take this on without the efforts of some federal department. He sees Industry Canada's focus as being on equipment, while that of the OLT is on learning. He is not aware of any great overlap of the OLT's efforts with those of other government agencies, with the possible exception of Industry Canada, although, as noted above, he believes IC's emphasis is on equipment, while the OLT's emphasis is on learning.

The respondent sees increased use and awareness of learning technologies both within the seniors' community in his area and more generally. Classes in computer use are growing, there is a computer club for seniors at the university, and a recently offered on-line course attracted 25 students from across North America.

In closing, he sees the primary contribution of the OLT in the Centre's project as having kick-started the program; it would not have gone ahead without OLT support. He also believes OLT-sponsored conferences keep people current and assist in individual efforts to develop networks of individuals with common interests. He sees the OLT's role as that of both coach and catalyst. Finally, as noted above, he especially values the OLT's emphasis on learning and community development.

The TeleLearning Institute Pilot Study

Information presented in this case study came from two sources: the project file maintained by the OLT and an interview with a representative of the project sponsor.

About the Sponsor

This project was sponsored by the University of Waterloo Information Technology Research Centre. While the project leader is a faculty member of the University of Waterloo, other key project personnel were drawn from Carleton University and the University of Calgary. Project partners were the TeleLearning Network Centres of Excellence and the Information Technology Research Centre of Ontario.

Project Description

The TeleLearning Institute is an innovative model for workplace learning and professional development. Participants in an ongoing Telelearning Institute are working professionals who typically are not currently enrolled in formal education. The Institute has structured monthly case study sessions which combine distributed real time sessions with Internet asynchronous interactions, so that participants can fit their involvement around their working schedules. The initial pilot study will address the continuing educational needs of professionals working in software user interfaces and learning technology design, but the Institute concept can be extended to a wide variety of work communities.

The pilot study will test the effectiveness of the Institute model as an application of learning technologies in the workplace (and, in future, in home settings). The study will include assessing the applicability of a case-based model for professional learning and the fit between current leading-edge technologies and the needs of working professionals. The initial topic area chosen for the pilot — the application of techniques from human computer interaction research to the needs of professional learning communities — will also support information sharing within the learning technology community.

Through the application of a case-based approach and the use of advanced network technologies, the Institute concept provides a flexible, modular approach to high quality continuing education. The TeleLearning Institute model is intended as a meeting place for Canada's leading experts, their communities of practice, and as a bridge to more formal education and certification opportunities.

The duration of this project is from June 1997 to the end of November 1998.

The OLT is contributing $95,000 to the project.

The Sponsor's Experiences and Views

About This Project

The project contact first became aware of the OLT through various e-mail lists, but particularly through the TeleLearning Network of Centres of Excellence.

While the contact found the OLT's materials and communications on the project funding reasonably clear, he still found it useful to liaise with the staff to ensure that there was a clear fit with the OLT's understanding of the project's objectives. OLT staff were very helpful in that regard. The respondent views some uncertainty as inevitable in a "groundbreaking program" like the OLT.

The project is using its pilot study to assess learning technology applications in the workplace, with inter-organizational learning communities. This falls under both the promotion and assessment objectives of the OLT. The sponsor had hoped to engage the community of learning technology developers to further the third objective (increase the availability and sharing of information about learning technologies) but they have proved to be a difficult audience with whom to interact because of the instability in the field.

As noted above, some assistance was required from OLT staff to prepare the application for this project. This assistance was timely and effective.

The project contact, who has been part of the review process for applications for project funding, considers the process to be reasonably fair and expeditious. What has impressed him about the OLT staff in this regard is their willingness to listen to and heed their expert advisors.

The ongoing progress reporting requirements imposed by the OLT on this project included periodic reports. The project contact has also occasionally passed on to OLT staff feedback from project participants that he found particularly energizing.

The overall initiative to explore workplace learning communities with this group (professionals in human-computer interaction) is part of a larger project to bring knowledge advances to them — the TeleCHI Project. This initiative is funded by financial support for release time for the principal investigator and a cash donation. The TeleCHI Project encompasses more than the pilot study, but the OLT funds enabled the sponsor to leverage the pilot study as a larger needs analysis for this community.

The project sponsor discovered that interest in this learning community extends further than the sponsor's original targets, and it has formed useful contacts as a result.

In the respondent's view, the OLT has struck the right balance in its final reporting and financial accountability requirements.

The sponsor has made several presentations at which it discussed the results of the pilot study as they evolved. It will be incorporating these into a more extensive field trial next year. This will include some on-line case studies, of which a part will be publicly available with support from the OLT funding.

About the OLT's Involvement

The project contact views the OLT's accomplishments and progress as commendable. He gives full marks to the OLT team for being open to new ideas, willing to listen and to translate ideas into action. He expects there will be a continuing evolution in the OLT's programs in response to the learning it is experiencing and the rapid rate of change in the industry.

With respect to whether a contribution program is the best vehicle available to the OLT to meet its objectives for these resources, the respondent feels confident that the appropriate positioning for the Contribution Program will continue to emerge as the overall strategy firms up.

With respect to whether the OLT's efforts overlap those of other government agencies, the respondent noted that some of the same objectives would likely also exist at the provincial level, but as far as he knows, the provinces were not nearly as far along as the OLT. He suggested that, at some future point, the OLT may play a role in bringing together provincial initiatives.

The respondent believes that awareness and use of learning technologies is exploding. He says that the OLT's part in this development, as opposed to economic factors, could probably not be firmly documented at this stage. The respondent believes that the OLT has had some evident impact on getting better use of learning technologies and on demonstrating benefits with groups who were otherwise left out, but that the real sign of success will likely be when the OLT is widely cited in the U.S. as a source of high quality information and guidance, which will lead Canadians to discover more about it.

Testing a Learning Model for People with Disabilities

Information presented in this case study came from two sources: the project file maintained by the OLT and an interview with a representative of the project sponsor.

About the Sponsor

The Lunenburg County Assistive Technology Centre was incorporated as a non-profit society under the *Societies Act* on July 12, 1993, and was registered as a charitable organization in 1995.

Its mission is to enhance opportunities for people with disabilities in all aspects of life by facilitating, implementing and supporting solutions through current computer technology. The objectives of the Society are to create solutions through technology to enable persons with disabilities to fully participate in all aspects of society and the economy; to improve access to education, employment opportunities, independent living and general information through current computer technology; and to be a first step in establishing a network of technology access services on the South Shore of Nova Scotia and ultimately throughout the province.

Project Description

This project tested a model for delivering basic skills training, using adapted computer technologies, to adults with disabilities living in rural areas seeking to enhance their employment and higher learning skills.

The test of this model was done in three different settings — home, work and community learning environments — to determine the applicability, process and effectiveness of training in these three environments. A key feature of the project was the training of volunteer tutors of people with disabilities in the use of the adapted learning technologies for the delivery of basic skills training.

Specific activities of the project included the design and delivery of an effective adapted learning technology academic assessment; the development of effective processes for the appropriate implementation of adapted learning technology in the learning environments; the identification of individual academic needs through learning technology assessment procedures; the provision and monitoring of the training of the disabled person within one of the three identified learning environments (home, workplace, learning centre); and the training of volunteer tutors and program facilitators to deliver basic skills training via adapted learning technologies.

Thirty participants were involved in the project, 10 in each of the three learning environments. It is hoped that the project will be of benefit to other organizations across the country that are involved in similar activities. It is hoped that the "train the trainer" model will be of special interest to other program facilitators working with disabled persons. Outcomes for this study included:

- a model for adapted learning technology service delivery for disabled adults living in rural communities;
- enhanced employability of the participants; and
- trained tutors and facilitators.

This project began in February 1997 and ended in February 1998.

The OLT contributed $69,000 to the overall budget.

The Sponsor's Experience and Views

About This Project

The sponsor first became aware of the OLT and its Contribution Program through the Disabled Persons Commission of Nova Scotia. The announcement made by the Commission was enough to prompt the respondent to seek additional information on the OLT. She conducted a search and accessed the OLT's website, from which she was able to download more information on the OLT.

The project that was subsequently developed fits most directly within the OLT's broader objectives of promoting the effective use of learning technologies and supporting assessment, research and testing related to learning technologies. These objectives were accomplished quite well through the project's plans to test and assess a model for delivering basic skills training using adapted technologies and through its plans to train tutors on that same technology. This project also addressed the OLT objective of increasing the availability of information about learning technologies through its efforts to share information via the OLT's website.

The OLT's materials and communications were thought to have provided a clear understanding of the OLT's mandate, objectives and criteria for funding. No difficulties were reported in completing the applications or preparing the proposal — "Things were clear, concise and easy to follow." Shortly after the submission of the initial proposal, the sponsor received a call from OLT staff who expressed a keen interest in the project and asked some questions about the proposal. OLT staff made certain recommendations for change, and the sponsor was asked to resubmit the proposal. OLT staff were described as "very supporting" and the advice they provided as extremely helpful — "They were very good about telling us what they required." The process followed by the OLT to review applications was perceived as fair and reasonably expeditious.

Since then, the sponsor has submitted a second proposal. This project was, however, not accepted by the OLT. In this case, the OLT took more time to advise the applicant of its decision and provided little information as to why the proposal was not accepted. This respondent recognized that the process could be somewhat unwieldy especially when the OLT had approximately 250 proposals to review and comment on. Nevertheless, she suggested that the OLT might want to consider developing a checklist to provide applicants with feedback on their proposals.

On-going reporting requirements (i.e., quarterly interim and financial reports) were perceived to be fair and reasonable, as were the final reporting requirements. The respondent was particularly pleased with the OLT's flexibility with regard to the administration of the funding. As a small community-based non-profit organization, the Centre could not support the start-up cost for the projects. This reality was explained to the OLT who in turn made arrangements for monies to be given up front to get the project underway. The project would not have gone ahead without OLT funding.

Leveraging support on the basis of OLT funding, the project was able to obtain in-kind contributions from several community partners, including the Lunenburg High School, the Employment Outreach Program in Bridgwater and Acadia University. The Centre's participation in this OLT-funded project not only contributed to the expansion of its network of contacts and partnerships, it also allowed those being tutored an opportunity to broaden their own networks and further their learning skills. Working with Industry Canada-sponsored Community Access Program (CAP) sites was also viewed as a positive experience.

Among other things, project results and findings will be disseminated on the Society's home page, the Nova Scotia disability home page and linked to the OLT website. Articles will also be submitted to recognized journals of such groups as the Learning Disabilities Association, and the Disabled Persons Commission of Nova Scotia. Presentations will be given to vocational rehabilitation specialists and literacy specialists.

About the OLT's Involvement

The sponsor for this project believes that the OLT is on the right track in its efforts to meet its objectives. The respondent for the organization indicated that the OLT "is providing organizations like ours and larger [ones with] opportunities to develop learning-based projects and learning from these."

She believes that the OLT's Contribution Program is critical and one of the best vehicles to meet its objectives. She identified funding as a limiting factor for many organizations — "The ideas are there, but there are no resources." The respondent said that the OLT provides the means by which organizations such as hers can explore new and innovative learning technologies. She thinks that "the OLT is making a difference."

For this and other reasons (e.g., access), the respondent thinks that it is necessary that a federal government agency in the form of the OLT be involved in this area. She was not aware of any overlap between the OLT and other government agencies involved the Status of Women initiative on women in technology.

In conclusion, the respondent indicated that there is evidence of increased awareness and use of learning technologies. Although it was difficult for her to gauge to what extent OLT had contributed to this increase, she did report receiving lots of calls from people who had visited the OLT's website and were interested in her project.

Technology-Mediated Learning in Rural Community Access Centres

About the Sponsor

The identified sponsor for this project is the Centre for Learning Technologies (CLT). This centre is an applied research and consulting organization focussing on the application of new technologies for training, learning and performance support purposes. It is an "arm's length" institute at Mount Allison University with a mandate to become self-sufficient through contract research, learning system development and professional development services to private and public sector customers.

The CLT provides services in four core areas:

- **Applied research**: to advance the knowledge base and practice of technology assisted learning;
- **Planning and Evaluation:** to assist organizations prepare for and evaluate the success of new learning technologies;
- **Learning System Design**: instructional design and production of highly effective learning and performance support tools;
- **Professional Development:** classroom and on-line workshops for training and education professionals.

Project Description

This project focuses on the effectiveness of technology-based learning methods for adults in rural communities who do not have easy access to computers. It targets community access centres established under the Community Access Program (CAP) sponsored by Industry Canada and is being delivered in partnership with the CLT and the Rural and Small Town Programme of Mount Allison University, working with Connect NB.

The project's objectives are:

- to assess the utility of a range of technology-based approaches for the provision of academic upgrading and economic development volunteer training to adult learners in rural communities via the CAP learning centres;
- to identify the key variables and support requirements which influence the success of technology-based training in community based learning organizations;
- to identify implications and strategies for the effective delivery and implementation of off-the-shelf courseware and on-line learning programs to adult learners and economic development volunteers in rural NB communities; and
- to develop a model of successful technology-based training in rural communities which will provide guidelines for the use of the CAP site across Canada and other community based training efforts.

The initial schedule for this study called for it to begin in September 1997 and to be completed in March 1999. It is hoped that this project will advance the current state of knowledge and practice in the effective use of technology assisted learning in rural community learning centre environments. More specifically, these are the expected outcomes for this project:

- a report resulting from the literature and best practices review summarizing findings;
- a model defining the components of effective, technology-based training in rural community learning centres; and
- information that may assist designers of learning products to improve the quality of their products aimed at rural adult learners.

The OLT's contribution to the project budget was $125,000.

The Sponsor's Experience and Views

About This Project

As an organization working in the area of technology-assisted learning, the CLT was aware of the OLT's existence even before it received the call for proposals document. At the time, the CLT had been considering research in the area of community learning and saw an opportunity to explore this issue further through the OLT.

The call for proposal materials were perceived to be clear and complete. Nevertheless, prior to submitting an application, the sponsor contacted the OLT to confirm its interest in this area and obtain clarification about the OLT's objectives and current areas of interest. The intent here was to obtain additional information that would allow the CLT to develop a project which more closely matched the OLT's current priorities.

The project sponsor perceived the OLT's application review process for project funding to be fair. Delays were encountered, however, in getting approval for the project: the process revealed the submission of two proposals from Mount Allison which had a similar focus — one from the CLT, the other from the Rural and Small Town Program. Upon the OLT's recommendation, the two were combined to form one project. As a result, the sponsor organization believes it has a much stronger project.

The project responds to all three of the OLT's objectives. In terms of promoting the effective use of learning technologies, the project focuses on the implementation and support strategies required by learning technologies and intends to present findings on best practices. Because it is a research-based project, there is also a requirement for an assessment. Finally, project plans also contain an information dissemination strategy which includes electronic distribution via the OLT, CLT and RSTP websites and report dissemination to various rural advocacy and research groups, economic development councils in rural areas, and through the offices of Connect NB. In addition, preliminary discussions have been held with representatives of the EvNet SSHRC Research Network regarding participating within their information dissemination channels.

The sponsor is required to submit quarterly interim reports. This requirement was perceived to be fair and reasonable and "not too excessive or time consuming." To the question on whether the project would not have gone ahead without OLT funding; the funding "gave us an opportunity to focus on community learning."

OLT funding permitted the CLT to leverage financial support from project partners. Connect NB provided in-kind contributions including administration and staff time, CAP Site and Regional Facilitators time, use of CAP facilities and supplies. In-kind contributions from Mount Allison included computing services support, financial administration support and project tracking. Additional in-kind contributions will be provided by software vendors in the form of discounts and waiver of software courseware licensing fees.

Participation in this OLT project has enabled CLT to interface more closely with other groups/partners — both inside and outside the university — who share similar interests. Although the project is still in its early stages, it has generated much interest across the province. This was attributed to CLT's own efforts to share information about the project and establish links with other groups. The sponsor has made a series of consultative presentations to various groups of contacts within the province interested in community learning and has attended the Pan-Canadian Forum on Community Learning Networks sponsored by the OLT. Since then CLT has also identified a number of other opportunities to extend what it is doing beyond the scope of this OLT project.

To fulfil final reporting requirements, CTL is to provide the OLT with an executive summary highlighting the findings of the project in both official languages and a final report of the project (in print and electronic format). These requirements were described as fair and reasonable. When completed, these reports will be available on the OLT's website and from CLT in hard copy.

About the OLT's Involvement

Generally speaking, the sponsor's contact for this project believes that the OLT is on the right track in its efforts to meet its objectives. There is, however, in his opinion, "definitely room for improvement."

The OLT's objectives were perceived as being too broad — "the OLT needs to have a tighter focus on what it is doing." The respondent also felt that the OLT's strong focus on community learning, social access to learning technologies, and marginalized groups was "good but almost too reflective of HRDC's mandate" and did not necessarily reflect issues identified by the learning technologies research community. Other sets of issues also exist which need consideration, such as implementation of technologies, workplace training, usability and quality of content.

Recognizing that the OLT may already be doing something in this area, the respondent suggested that the OLT might want to be more strategic in its selection of projects, "instead of being all over the map." He explained that currently there is a vast range of projects and it is not always clear how they relate to the OLT's current areas of interests or how they relate to each other. He recommended that the OLT do a kind of meta-analysis of all its projects. Findings from this analysis could be used to identify gaps in knowledge and establish new areas of priorities. Moreover, instead of the OLT's current blanket approach to funding projects, specific areas could be targeted for funding. This information could be communicated to clients who could then develop projects in response to these identified information gaps — "instead of us having to identify the gaps."

The respondent also suggested that the OLT might want to direct more effort toward facilitating partnerships at the local level. At the proposal stage the OLT could act more as a broker — providing sponsors the opportunity to partner with other projects to develop stronger projects. Once projects are underway, the OLT could be more proactive in linking together those projects that are similar — "The website as a support tool doesn't allow you to do this" (nor is it user friendly). He reported little active communications on the part of the OLT in this respect and indicated that "there seemed to be an expectation that this was my responsibility." The respondent did acknowledge that time spent on this activity may be a function of limited human resources.

Although the contact recognized a huge increase in the level of awareness and use of learning technologies, he could not say to what extent this increase was attributable to the

OLT — "My first response would be to say I don't know, but my second would be to say I don't think so."

With respect to overlap with other agencies promoting the use of technologies, it was felt that some duplication exists between the OLT and Industry Canada. The sponsor was also aware of other agencies involved in the area of learning technologies, such as SSHRC or the Centres of Excellence, and encouraged increased collaboration between these agencies and the OLT.

Evaluating Learning Technologies for Inuit Communities

Information presented in this case study came from two sources: the project file maintained by the OLT and an interview with a representative of the project sponsor.

About the Sponsor

This project was sponsored by the Faculty of Education at McGill University. It is being led by two Ph.D. students, both studying computer applications and Internet-based distance education courses. Partners for the study include the Nunavut Implementation Training Committee (NITC), the Northwest Territories Teachers Association (NWTTA), Nunavut Arctic College, McGill University's TeleLearning Research Project and Apple Canada. The NITC is a joint committee established under Article 37 of the Nunavut Land Claim Agreement to develop and implement training related to ensuring that Inuit have an active role in all activities related to the implementation of the Agreement. The NWTTA is a professional organization of teachers interested in maintaining and improving the qualifications of its members. Nunavut Arctic College is the post-secondary educational institution responsible for degree and diploma programs in the North.

Project Description

In July 1996, the project team from the Faculty of Education at McGill University submitted a proposal to evaluate the effectiveness of new learning technologies as mediums of instruction for multi-site workplace-based training in remote northern communities.

More specifically, the objectives of the project were to:

- evaluate the effectiveness of a combination of computer-assisted videoconferencing, electronic mail and the World Wide Web as mediums of instruction for multi-site learning opportunities in Canada's northern area;

- expand Inuit adults' access to the world of learning through computer-assisted learning, which will aid in developing a community that values lifelong learning; and

- consider the accommodations and adaptations necessary to ensure that the implementation of technology-enhanced instruction is culturally relevant, effective and sustainable in the North.

The project proposed a 12-week workplace training program for a total of 11 Inuit teachers in Baker Lake and Rankin Inlet on how to design web pages and integrate learning technologies into their classes. The teachers will learn to use the Internet and related communication technologies to find instructional resources and to construct their own resources on the World Wide Web.

Project activities include course design; site visits to introduce the program, set up the equipment and familiarize the learners with the equipment; delivery of a 12-week course (1.5 hours per week) through computer-assisted videoconferencing, electronic mail and the World Wide Web. Feedback from participants will be collected at different stages of the project to be reviewed, analyzed and integrated into a final report.

This project is still underway. The initial schedule for this project called for it to begin in January 1997 and to be completed by October 1998. Time frames for the project are considered to be realistic and no delays are foreseen.

The OLT is to contribute $30,500 to the project.

The Sponsor's Experience and Views

About This Project

The project sponsor first became aware of the OLT and the Contribution Program after receiving, from a colleague, the call for proposals document. Concerned about the issue of professional/staff development needs in the North and the difficulties associated with the delivery of this type of training, the sponsor decided to develop and submit a proposal which would address these issues.

The sponsor experienced no difficulties in responding to the call for proposal. The OLT's materials and communications provided a clear understanding of its mandate, objectives and criteria for project funding. What was unclear to the sponsor were the specific groups targeted by the OLT and whether the OLT was even doing any kind of targeting.

Having developed the proposal based on the OLT's guidelines, the respondent for the sponsor believed his project fit in well with the OLT's overall objectives. It will promote the use of learning technologies among a group of Inuit teachers, assess the effectiveness of a combination of three technologies as mediums of instruction, and test and make available recommendations for the implementation of learning technologies for other workplace training experiences in remote communities.

No assistance in preparing the project proposal was either provided or needed by the sponsor. The process to review applications for funding was viewed as somewhat slow, but fair — "You quickly get a letter informing you they've received your proposal, but the decision regarding funding can take time" — and it is unclear when announcements will be made. The respondent commented about the competitive nature of the process, and he believed that the selection criteria were clear and reflective of what needed to be done to be successful. The respondent also noted that the OLT had been extremely helpful in pointing out that the budget for the study may have been underestimated.

Based on his discussions with the OLT, adjustments were made to the budget to better reflect the true cost of the project.

The project was required to submit short quarterly progress and financial reports. These requirements were regarded as fair and reasonable. The respondent indicated that the preparation of these reports gave him an opportunity to reflect on what had been done to date — this was very helpful to him.

This project would not have gone forward without the OLT support. Our contact explained that the need for more research in the area of distance education in remote communities is great but that few resources exist to permit it. The respondent felt that this research is extremely important, since technologies can play an important role in the North, where opportunities for learning are so limited.

The OLT funded a large proportion of this project, and the sponsor was able to leverage funding and in-kind support from Apple Canada, Arctic College, McGill University and DIAND's Northern Scientific Training Fund. The Association of Teachers also contributed in-kind to the project.

The respondent explained that community support for the project was easy to obtain, as many recognized the need for such a project. Special efforts were made to rally people interested in distance education to move the project forward. Many, including the provincial person responsible for distance education in NWT, came on board during the course of the project.

Finally, requirements for an executive summary and final report were perceived as fair and reasonable. Results of the project will be published in relevant research journals and shared at conferences. (At the time of this evaluation the sponsor was in Ottawa making a presentation to the Canadian Society for Study of Education.) A website that will include the course materials and the final report of the project will be maintained by the OLT.

About the OLT's Involvement

Overall, the respondent was of the opinion that the OLT was on the right track in its efforts to meet its objectives. He did, however, believe that the OLT could do a better job of increasing the availability and sharing of knowledge about learning technologies. Similarly he felt that the OLT could improve its linking of projects that are similar. He also recommended that the OLT place some kind of organizational chart on its website — "a sort of who's who."

The respondent thought that the Contribution Program was the best vehicle available to the OLT to meet its objectives for these resources. Nevertheless, he felt that the OLT's approach could be more targeted to certain groups and that information should be made clear in the program's documentation.

Overall, our contact felt very positive about the OLT and its staff. He noted that the OLT had done a "fine job" at distinguishing itself from other federal programs, recognizing that some similarities do exist with other programs. The respondent was unsure, however, about the exchange of information that currently exists between agencies. He also felt that on-site links to other government sites (either federal or provincial) or private sector sites that fund learning technology projects could be established.

Finally the respondent thought that his organization's participation in this OLT project had given learning technologies in the North more visibility.

Strategic Technology Application for Rural Telework (START)

Information presented in this case study came from two sources: the project file maintained by the OLT and an interview with a representative of the project sponsor.

About the Sponsor

Eastern College, Clarenville Campus, has developed a computer-based learning model used in the college's Telework Training Program.

Project Description

The Strategic Technology Application for Rural Telework (START) project was designed to adapt, implement and evaluate an interactive, web-based model for the delivery of a college-level home-based study program to adult learners in rural communities in Newfoundland.

It is hoped that the model will enhance peer-to-peer, student-to-tutor and student-to-instructor interaction and establish an effective balance between this increased interaction and independent learning.

The model will be tested in the delivery of the one-year, post-certificate, Telework Training Program offered by the college. Outcomes for the project include:

- a program that more effectively meets the needs of adults who want to learn and work in rural communities; and
- a learning model for specific (telework) skills that is potentially portable to other rural communities in Canada.

OLT funding for the START Project commenced in November 1996 and ended in December 1998.

The OLT contributed $69,500 to the approved budget.

The Sponsor's Experience and Views

About This Project

The respondent for this sponsor first became aware of the OLT and its Contribution Program through Newfoundland's Open Learning and Information Centre. The college was one of the first in the province to attempt to develop such a model and saw the OLT as a funding source of its project.

The project used OLT funding to research an interactive, web-based model for the delivery of a college-level home-based study program. Based on this research, the college was able to "select a product that would work well for us in a rural environment and then actually deliver a program using this tool."

The sponsor experienced few difficulties in responding to the call for proposal — no assistance from the OLT was either provided to or requested by the sponsor. The OLT's materials and other communications provided a clear understanding of its mandate, objectives and criteria for project funding.

The process followed by the OLT to review applications for funding was perceived to be fair. The respondent found it particularly useful that "If the OLT sees merit in a proposal, they will come back and say this looks promising; you should change this and that...." OLT staff were described as helpful and supportive. The sponsor is currently going through the same process with two other OLT projects. With regard to whether the process was expeditious, the project contact indicated he knew he would have to wait before getting a response from the OLT and this was acceptable to him.

The respondent felt the OLT could spend more time on project development, helping organizations such as his to develop potentially fundable projects. He explained that "you need to build up a certain critical mass before you are able to respond." He went on to say that this could be why the OLT had not received many requests for funding from Eastern Canada — "but with the OLT's assistance they can expect to receive more."

The project was required to submit quarterly progress and financial reports. The project was also to undergo an evaluation by an external evaluator. These requirements were viewed as fair and reasonable. The same was thought of the final reporting requirements.

This project would not have gone ahead without OLT funding — "There were no other sources that we could tap into for what we needed to do for this project." Participation in this OLT project also allowed the sponsor to leverage both in-kind and financial contributions from other sources. In addition to its in-kind contributions, the college also made a cash donation to the project. The Open Learning and Information Centre also contributed in-kind to the project by providing access to an instructional designer.

The project served as a "spring board for a whole nest of developmental projects." The respondent explained that as a direct result of the OLT's research and the research conducted using OLT funding, the college had adopted the model tested in the study and that it had now been implemented on 18 campuses. Since then it has also been adopted by the secondary school system.

Finally, study reports are available both on the college's website and the OLT website and in hard copy. In the respondent's view, these requirements are both fair and reasonable.

About the OLT's Involvement

Not having been close to the OLT, this respondent found it difficult to comment overall on whether the OLT was on the right track in meeting its objectives. Based on his experience, however, he indicated that he believed the OLT was doing a good job.

Nevertheless, this respondent disagrees fundamentally with the concept of a brokerage type of arrangement where OLT acts as a broker between the federal government and the colleges. He felt that the money should go directly to those who have received a mandate to conduct work learning technologies. In times of fewer resources, he said, it was difficult for him to accept that much of the money is being lost on administrative structures — this was extremely frustrating to him.

Although he saw the usefulness of having agencies such as the OLT, he questioned whether these were really necessary — "The money is being spent anyway, but could be spent more effectively if sent directly to the colleges."

With respect to overlap with other agencies, the sponsor was not aware of any other agency that focuses on learning technologies from the same perspective as the OLT. He mentioned Heritage Canada's announcement to spend $30 million for multi-media development and saw some potential for duplication with this initiative. He believed the OLT is more focussed on learning and less on technologies than are other agencies.

With regard to increased awareness and use of learning technologies, the START project contact reported that the model/product tested by the study had been implemented in several sites across the province. This respondent felt that the OLT had greatly contributed by providing funding for such realizations.

When asked how the OLT could change to better achieve its objectives, the respondent suggested that "The OLT be more regionally sensitive." He explained that in Newfoundland there is a need for developmental assistance "before we can get up to the point that we can better access services like the OLT." Newfoundlanders are at a different stage of development with regard to distance education. The college was described as a "fledgling" in this area compared to other provinces and needed assistance "to get up to speed." For this reason, the respondent felt strongly that the OLT's developmental role should be strengthened.

Distance Prior Learning Assessment Project (DPLA)

Information presented in this case study came from two sources: the project file maintained by the OLT and an interview with a representative of the project sponsor.

About the Sponsor

This project was sponsored by Holland College. This community college is located in PEI and offers a wide variety of technical, applied arts and sciences, vocational and continuing education programs. Established in 1969, the college has grown to offer more than 60 programs to almost 2,000 full-time students. In addition, another 6,000 part-time students are enrolled in night school and short courses annually.

Project Description

Prior Learning Assessment (PLA) is a process for giving credit towards institutional recognition for learning that has been acquired in previous educational experience or through life or work experience.

Through this project, the college was able to research, test and evaluate the application of a PLA recognition strategy in conjunction with a distance education program. The project also provided research and assessment data for further study and development of techniques that will allow PLA to be conducted in a distance format.

The Distance Prior Learning Assessment (DPLA) model was tested in the distance delivery mode of the Business Information Technology — Education at a Distance Program (BIT — EDP) offered by the college. This program can accommodate 60 students and three instructors. The model used a modular format that was delivered using a variety of techniques which may include the Internet, interactive audio and video graphics, paper, seminars, individual instruction and video tapes.

It is hoped that project results will also benefit other adult learners who wish to further their knowledge and skills through distance education and other educational institutions that wish to offer PLA at a distance.

The OLT funding for the DPLA Project commenced in January 1997 and ended in January 1998.

The OLT contributed $68,500 to the project budget.

The Sponsor's Experience and Views

About This Project

The need for a Prior Learning Assessment and Recognition process for BIT — EDP learners at Holland College was identified in 1996. Learners Profiles indicated that people had been working in the technology field for years and had acquired many skills identified as learning outcomes in the BIT — EDP. When this sponsor's respondent became aware of the OLT and its Contribution Program, through a brochure he had received from a colleague, he immediately decided to apply for funding.

The OLT's call for proposal materials were described as clear and complete. Nevertheless, the sponsor sought OLT guidance once the first draft of the proposal had been completed. The respondent reported he was unsure about whether to include certain costs in the budget. He described the assistance provided as forthcoming and timely but not effective. A problem arose when he sent in his proposal based on one staff's advice to include certain expenses and was asked by another to amend and resubmit his proposal to exclude them. This, he said, "took away from the project."

This project fits with the second OLT objective of supporting assessment research and testing related to early learning technologies — this project focussed on distance learning applications, specifically the DPLA. The project also, looked at increasing access by allowing the PLA to be conducted in a distance format.

The process followed by the OLT to review applications was described as fair but somewhat slow. Our respondent reported some frustration with the review date being pushed back several times — "This left us hanging in the balance." Quarterly and financial reports were required. These requirements were perceived as fair and reasonable and "presented no hindrance" to the project. The bulk of the reporting was done at the end of the project.

Without OLT funding, this project would have gone ahead but not within the same time frame. It would have occurred one year later, and the scale would have been smaller. The OLT support did lead to leveraging of support from other sources, including the province's Department of Education, the college, and the Office of Higher Education and Adult Learning. The college's participation in this project has also enabled it to expand its network of contacts through speaking at conferences about the project and attending OLT-sponsored conferences on other subjects. This would not have occurred otherwise. The respondent also reports potential for partnership-building as a result of contacts.

The final report is completed and has been submitted. The respondent said that the requirement imposed by the OLT was reasonable. Results and findings have been disseminated through a special web page provided by the college; the OLT's website (the respondent reports much correspondence from this already); a report in the quarterly newsletter of the Association of Canadian Community Colleges (ACCC); and a presentation and demonstration at a conference held by the Canadian Labour Force Development Board.

About the OLT's Involvement

This project's spokesperson views the OLT as generally on the right track to date. Moreover, he believes that the Contribution Program is the best vehicle available to the OLT to meet its objectives. There are, in his opinion, alternatives in addition to this, such as web conferences.

He felt that the OLT, as a federal agency, was indeed fulfilling a proper and necessary role in furthering the development and use of learning technologies in Canada. Our contact, however, believes that there needs to be a bigger commitment on the part of the federal government and that not enough resources are being devoted to this area.

The respondent was not familiar enough with other government programs to comment on whether they overlap. He did report "a great increase in awareness and use of learning technologies" within the past two years, but was unable to say to what extent the OLT had contributed to this increase.

Finally, this respondent concluded by saying that he had not seen much come across his desk on the OLT since the end of this project. He suggested that in addition to the website, the OLT may want to more actively promote itself by sending out more printed communication products and information about calls for proposals.

Occupational Training on the Information Highway

The information presented next came from two sources: a review of the project file maintained by the OLT and an interview with a representative of the project sponsor.

About the Sponsor

The Society for Lifelong Learning (SAVIE) is a not-for-profit society developed in response to concerns expressed by the information technology industry about helping to create a culture of lifelong learning.

SAVIE members are from businesses, educational (elementary to university) and research institutions, government and municipal organizations and associations involved in training. Through its membership, it is active nationally and internationally.

SAVIE's mandate is to establish and facilitate a virtual community for dialogue on the Internet. Its main mission is to "support training as a development tool, research into incorporating information technology into teaching and learning methodology and dialogue among various Quebec communities." Its major objectives are:

- To facilitate information sharing among members of the virtual community.
- To develop both the study of information technologies and their use in training in business, government and municipal organizations, associations and educational settings.
- To support technological innovation in the training field and linkages among partners in developing joint projects.
- To create an electronic market for sharing progressive training deliverables (models, methods, tools, etc.).
- To establish links with Canadian and international networks sharing the same interests as SAVIE.
- To promote a culture in business, research and education that is supportive of sharing of progressive training deliverables.

The society is managed by a board of directors made up of 16 members — 6 representing information technology-based businesses, 7 from the education and research fields, and 3 working in government organizations (MICST, MÉQ and Industry Canada) — and an administrative office. It currently has over 500 members, all linked by the SAVIE website.

Project Description

The SAVIE project aims to develop a learning model that makes use of information and communication technologies to meet the need for customized training for adults looking for work or in career/job transitions.

The objectives of the project are:

- To adapt a career development assistance program.
- To determine the competencies involved in the use of information and communication technologies in the workplace.
- To develop a tool for analyzing training needs in terms of competencies.
- To develop various tools, strategies and decision-making aids that enable users to identify their training needs, plan an individualized training project, choose the training that best meets their needs and assess their progress.
- To develop a tool that provides users direct access to various occupational training data banks on the Internet.
- To test and validate the multimedia environment with various target client groups (people looking for work or in career/job transitions from various socio-economic and cultural backgrounds).
- To study the use of technological tools in various training situations.

The major results expected from this study are:

- An integrated, interactive multimedia environment to guide, diagnose, plan and track an occupational training project accessible on the Internet.
- A user-friendly research tool using various occupational training data banks that offer adult learners the opportunity to choose the training best suited to their needs.

This agreement is for the period from December 1, 1996 to March 31, 1999.

The OLT contributed $229,800 to the project.

The Sponsor's Views About The OLT's Involvement

The project sponsor became aware of the OLT and its Contribution Program through Industry Canada. The OLT had just launched its first call for proposals and SAVIE submitted its application for funding for an R&D project.

As a member of the OLT Advisory Panel of Experts, the respondent is familiar with the program's development. She explained that since the first round of proposals, OLT documents have changed a great deal. Initially, they were not highly developed — "They were interesting but lacked a great deal of basic information." After the initial experience, however, the "OLT greatly improved the content of its application and forms." She congratulated the OLT on its attentiveness to the views of the Advisory Panel of Experts which, in her opinion, enabled the documents to be improved.

The documentation is now very specific — "What surprises us when we assess projects is that people do not respond to very specific requirements." Two aspects remain to be clarified: 1) OLT documents do not define the term "contribution" but they should, because people have all kinds of different interpretations; and 2) the need for letters from partners should be specified more clearly. In her opinion, there is a problem in the equivalency of forms on the Net and paper forms — "which have information that is not on the Net."

The respondent reported that in preparing the proposal, she was in regular contact with OLT staff to clarify the items of information required for the application. She said she received excellent service at that time — "We received a very good response — staff members were always available to help."

The project assessment process was perceived as fair. As a project assessor, she would like more time to read the summaries of projects she is not responsible for but still has to assess. The summaries are submitted on the day of the meeting, which does not allow much time to read them — "I am uncomfortable being asked to vote on projects people are presenting that I have not had time to read." This discomfort is increased by the fact that some experts do not always present their projects, as requested by the OLT. She cannot make a decision on such projects. In her opinion, if "we want to do a thorough job and be fair to everyone," the written summaries should be submitted a week in advance, to give everyone the chance to fully absorb the information. In addition, the experts should be required to present a good overview.

OLT objectives are very similar to SAVIE objectives. The project meets the OLT's main objective by identifying the needs of adult learners in terms of the use of information and communication technologies and analyzing these needs. The project specifically offers adults looking for work or in career/job transitions: 1) an integrated, interactive multimedia environment to guide, diagnose, plan and track an occupational training project accessible on the Internet, which enables adult learners to better identify their individual training needs, plan their project and training activities more effectively, and acquire the competencies required to meet the requirements of an information-based economy; and 2) a user-friendly research tool to navigate the various occupational training data banks, offering adult learners the opportunity to choose the training best suited to their needs.

Although SAVIE had a well-established network of partners even before its participation in the OLT project, the project enabled it to increase its network of contacts and partners in the field even more. Accustomed to working in partnership with the community, SAVIE had little difficulty obtaining funding and/or in-kind assistance for this project from other sources. Among the partners for the project are: Québec-Téléphone, the Centre de développement des technologies éducatives (CDTÉ), MLLA and Ass. inc., CRÉÉES, the Native Training Institute of Quebec, the Commission scolaire des Découvreurs à Sainte-Foy, the Commission des écoles catholiques de Montréal, Coup de Pouce Travail, MICST, MÉQ and Industry Canada. The type of contribution made by each partner varies considerably.

The SAVIE project would not have been possible without OLT funding. Applications had been made to several places before approaching the OLT. At that time, however, R&D was not fundable. According to the respondent, the OLT's great strength is that it provides for major research that would not otherwise have been done.

The progress reports required by the OLT represent a great deal of work for the respondent — "That is the part I find hardest." A progress report has to be submitted every three months. They are fairly lengthy and take time to prepare — "It takes time away from the project; when you're working on reports, you're not doing research." She suggests that the time frame for reports be every six months. In her opinion, it would be less costly for the project. She also mentioned that she had never received any feedback from the OLT on her work; however, she interpreted that as a sign of satisfaction on the part of the OLT.

The results of the project will be disseminated by various methods including publishing an interactive electronic newsletter (InfoSAVIE) on the SAVIE website, posting various project reports on the website, publishing scientific articles in specialized journals, and presenting a multimedia awareness workshop to various associations and groups involved in occupational training. The respondent also advised us that the promotion/marketing group is working on developing a specific dissemination strategy.

She concluded by saying that her only regret about the project was that there was insufficient funding to develop an English system. Once the project has ended, SAVIE intends to go back to the OLT for additional funding to complete this task — "Then we will have a truly Canada-wide project."